

# Profiling Assays available from Carna Biosciences, Inc.

As of January 7, 2019

Page	Kinase Name	Assay Platform
5	ABL(ABL1)	MSA
5	ABL(ABL1) [E255K]	MSA
5	ABL(ABL1) [T315I]	MSA
5	ACK(TNK2)	MSA
5	AKT1	MSA
6	AKT2	MSA
6	AKT3	MSA
6	ALK	MSA
6	ALK [C1156Y]	MSA
6	ALK [F1174L]	MSA
7	ALK [G1202R]	MSA
7	ALK [G1269A]	MSA
7	ALK [L1196M]	MSA
7	ALK [R1275Q]	MSA
7	ALK [T1151_L1152insT]	MSA
8	EML4-ALK	MSA
8	NPM1-ALK	MSA
8	AMPKα1/β1/γ1(PRKAA1/β1/G1)	MSA
8	AMPKα2/β1/γ1(PRKAA2/β1/G1)	MSA
8	ARG(ABL2)	MSA
9	AurA(AURKA)	MSA
9	AurA(AURKA)/TPX2	MSA
9	AurB(AURKB)/INCENP	MSA
9	AurC(AURKC)	MSA
9	AXL	MSA
10	BLK	MSA
10	BMPR1A	ELISA
10	BMX	MSA
10	BRAF	ELISA
10	BRAF [V600E]	ELISA
11	BRK(PTK6)	MSA
11	BRSK1	MSA
11	BRSK2	MSA
11	BTK	MSA
11	BTK [C481S]	MSA
12	BUB1/BUB3	MSA
12	CaMK1α(CAMK1)	MSA
12	CaMK1δ(CAMK1D)	MSA
12	CaMK2α(CAMK2A)	MSA
12	CaMK2β(CAMK2B)	MSA
13	CaMK2γ(CAMK2G)	MSA
13	CaMK2δ(CAMK2D)	MSA
13	CaMK4	MSA
13	CDC2/CycB1	MSA
13	CDC7/ASK	MSA
14	CDK2/CycA2	MSA
14	CDK2/CycE1	MSA
14	CDK3/CycE1	MSA
14	CDK4/CycD3	MSA
14	CDK5/p25	MSA
15	CDK6/CycD3	MSA
15	CDK7/CycH/MAT1	MSA
15	CDK9/CycT1	MSA
15	CGK2(PRKG2)	MSA
15	CHK1(CHEK1)	MSA
16	CHK2(CHEK2)	MSA
16	CK1α(CSNK1A1)	MSA
16	CK1γ1(CSNK1G1)	MSA
16	CK1γ2(CSNK1G2)	MSA
16	CK1γ3(CSNK1G3)	MSA
17	CK1δ(CSNK1D)	MSA
17	CK1ε(CSNK1E)	MSA
17	CK2α1/β(CSNK2A1/β)	MSA
17	CK2α2/β(CSNK2A2/β)	MSA
17	CLK1	MSA
18	CLK2	MSA
18	CLK3	MSA
18	COT(MAP3K8)	ELISA
18	CRIK(CIT)	MSA
18	CSK	MSA
19	DAPK1	MSA
19	DCAMKL2	MSA
19	DDR1	MSA
19	DDR2	MSA
19	DGKα(DGKA)	ADP-Glo
20	DGKβ(DGKB)	ADP-Glo
20	DGKγ(DGKG)	ADP-Glo
20	DGKδ(DGKD)	ADP-Glo
20	DGKε(DGKE)	ADP-Glo
20	DGKζ(DGKZ)	ADP-Glo
21	DGKη(DGKH)	ADP-Glo
21	DGKθ(DGKQ)	ADP-Glo
21	DGKi(DGKI)	ADP-Glo
21	DGKκ(DGKK)	ADP-Glo
21	DLK(MAP3K12)	ELISA

Page	Kinase Name	Assay Platform
22	DYRK1A	MSA
22	DYRK1B	MSA
22	DYRK2	MSA
22	DYRK3	MSA
22	EEF2K	MSA
23	EGFR	MSA
23	EGFR [d746-750]	MSA
23	EGFR [d746-750/T790M]	MSA
23	EGFR [L858R]	MSA
23	EGFR [L861Q]	MSA
24	EGFR [T790M]	MSA
24	EGFR [T790M/L858R]	MSA
24	EPHA1	MSA
24	EPHA2	MSA
24	EPHA3	MSA
25	EPHA4	MSA
25	EPHA5	MSA
25	EPHA6	MSA
25	EPHA7	MSA
25	EPHA8	MSA
26	EPHB1	MSA
26	EPHB2	MSA
26	EPHB3	MSA
26	EPHB4	MSA
26	Erk1(MAPK3)	MSA
27	Erk2(MAPK1)	MSA
27	Erk5(MAPK7)	MSA
27	FAK(PTK2)	MSA
27	FER	MSA
27	FES	MSA
28	FGFR1	MSA
28	FGFR1 [V561M]	MSA
28	FGFR2	MSA
28	FGFR2 [V564I]	MSA
28	FGFR3	MSA
29	FGFR3 [K650E]	MSA
29	FGFR3 [K650M]	MSA
29	FGFR3 [V555L]	MSA
29	FGFR3 [V555M]	MSA
29	FGFR4	MSA
30	FGFR4 [N535K]	MSA
30	FGFR4 [V550E]	MSA
30	FGFR4 [V550L]	MSA
30	FGR	MSA
30	FLT1	MSA
31	FLT3	MSA
31	FLT4	MSA
31	FMS(CSF1R)	MSA
31	FRK	MSA
31	FYN [isoform a]	MSA
32	FYN [isoform b]	MSA
32	GSK3α(GSK3A)	MSA
32	GSK3β(GSK3B)	MSA
32	Haspin(GSG2)	MSA
32	HCK	MSA
33	HER2(ERBB2)	MSA
33	HER4(ERBB4)	MSA
33	HGK(MAP4K4)	MSA
33	HIPK1	MSA
33	HIPK2	MSA
34	HIPK3	MSA
34	HIPK4	MSA
34	IGF1R	MSA
34	IKKα(CHUK)	IMAP
34	IKKβ(IKBKB)	MSA
35	IKKε(IKBKE)	MSA
35	INSR	MSA
35	IRAK1	IMAP
35	IRAK4	MSA
35	IRR(INSRR)	MSA
36	ITK	MSA
36	JAK1	MSA
36	JAK2	MSA
36	JAK3	MSA
36	JNK1(MAPK8)	MSA
37	JNK2(MAPK9)	MSA
37	JNK3(MAPK10)	MSA
37	KDR	MSA
37	KIT	MSA
37	KIT [D816E]	MSA
38	KIT [D816V]	MSA
38	KIT [D816Y]	MSA
38	KIT [T670I]	MSA
38	KIT [V560G]	MSA
38	KIT [V654A]	MSA

Page	Kinase Name	Assay Platform
39	LATS2	MSA
39	LCK	MSA
39	LIMK1	ELISA
39	LKB1(STK11)/MO25a/STRADa	ELISA
39	LOK(STK10)	MSA
40	LTK	MSA
40	LYNa	MSA
40	LYNb	MSA
40	MAP2K1	ELISA
40	MAP2K2	ELISA
41	MAP2K3	ELISA
41	MAP2K4	ELISA
41	MAP2K5	ELISA
41	MAP2K6	ELISA
41	MAP2K7	ELISA
42	MAP3K1	ELISA
42	MAP3K2	ELISA
42	MAP3K3	ELISA
42	MAP3K4	ELISA
42	MAP3K5	ELISA
43	MAP4K2	MSA
43	MAPKAPK2	MSA
43	MAPKAPK3	MSA
43	MAPKAPK5	MSA
43	MARK1	MSA
44	MARK2	MSA
44	MARK3	MSA
44	MARK4	MSA
44	MELK	MSA
44	MER(MERTK)	MSA
45	MET	MSA
45	MET [D1228H]	MSA
45	MET [M1250T]	MSA
45	MET [Y1235D]	MSA
45	MINK(MINK1)	MSA
46	MLK1(MAP3K9)	ELISA
46	MLK2(MAP3K10)	ELISA
46	MLK3(MAP3K11)	ELISA
46	MNK1(MKNK1)	MSA
46	MNK2(MKNK2)	MSA
47	MOS	ELISA
47	MRCKa(CDC42BPA)	MSA
47	MRCKb(CDC42BPB)	MSA
47	MSK1(RPS6KA5)	MSA
47	MSK2(RPS6KA4)	MSA
48	MSSK1(STK23)	MSA
48	MST1(STK4)	MSA
48	MST2(STK3)	MSA
48	MST3(STK24)	MSA
48	MST4	MSA
49	MUSK	MSA
49	NDR1(STK38)	MSA
49	NDR2(STK38L)	MSA
49	NEK1	MSA
49	NEK2	MSA
50	NEK4	MSA
50	NEK6	MSA
50	NEK7	MSA
50	NEK9	MSA
50	NIM1K(MGC42105)	MSA
51	NuaK1	MSA
51	NuaK2	MSA
51	p38a(MAPK14)	MSA
51	p38b(MAPK11)	MSA
51	p38g(MAPK12)	MSA
52	p38d(MAPK13)	MSA
52	p70S6K(RPS6KB1)	MSA
52	p70S6Kb(RPS6KB2)	MSA
52	PAK1	MSA
52	PAK2	MSA
53	PAK4	MSA
53	PAK5(PAK7)	MSA
53	PAK6	MSA
53	PASK	MSA
53	PBK	MSA
54	PDGFRa(PDGFR)	MSA
54	PDGFRa(PDGFR) [D842V]	MSA
54	PDGFRa(PDGFR) [T674I]	MSA
54	PDGFRa(PDGFR) [V561D]	MSA
54	PDGFRb(PDGFR)	MSA
55	PDHK2(PDK2)	MSA
55	PDHK4(PDK4)	MSA
55	PDK1(PDPK1)	MSA
55	PEK(EIF2AK3)	IMAP
55	PGK(PRKG1)	MSA
56	PHKG1	MSA
56	PHKG2	MSA
56	PIK3CA/PIK3R1	ADP-Glo
56	PIKFYVE(PIP5K3)	ADP-Glo
56	PIM1	MSA

Page	Kinase Name	Assay Platform
57	PIM2	MSA
57	PIM3	MSA
57	PIP4K2A	ADP-Glo
57	PIP4K2B	ADP-Glo
57	PIP5K1A	ADP-Glo
58	PIP5K1B	ADP-Glo
58	PIP5K1C	ADP-Glo
58	PIP5K1L	ADP-Glo
58	PKACa(PRKACA)	MSA
58	PKACb(PRKACB)	MSA
59	PKACg(PRKACG)	MSA
59	PKCa(PRKCA)	MSA
59	PKCb1(PRKCB1)	MSA
59	PKCb2(PRKCB2)	MSA
59	PKCg(PRKCG)	MSA
60	PKCδ(PRKCD)	MSA
60	PKCε(PRKCE)	MSA
60	PKCζ(PRK CZ)	MSA
60	PKCη(PRKCH)	MSA
60	PKCθ(PRKCO)	MSA
61	PKCi(PRKCI)	MSA
61	PKD1(PRKD1)	MSA
61	PKD2(PRKD2)	MSA
61	PKD3(PRKD3)	MSA
61	PKN1	IMAP
62	PKR(EIF2AK2)	IMAP
62	PLK1	MSA
62	PLK2	IMAP
62	PLK3	MSA
62	PRKX	MSA
63	PYK2(PTK2B)	MSA
63	QIK(SNF1LK2)	MSA
63	RAF1	ELISA
63	RET	MSA
63	RET [G691S]	MSA
64	RET [M918T]	MSA
64	RET [S891A]	MSA
64	RET [Y791F]	MSA
64	ROCK1	MSA
64	ROCK2	MSA
65	RON(MST1R)	MSA
65	ROS(ROS1)	MSA
65	RSK1(RPS6KA1)	MSA
65	RSK2(RPS6KA3)	MSA
65	RSK3(RPS6KA2)	MSA
66	RSK4(RPS6KA6)	MSA
66	SGK	MSA
66	SGK2	MSA
66	SGK3(SGKL)	MSA
66	SIK(SNF1LK)	MSA
67	skMLCK(MYLK2)	MSA
67	SLK	MSA
67	SPHK1	MSA
67	SPHK2	MSA
67	SRC	MSA
68	SRM(SRMS)	MSA
68	SRPK1	IMAP
68	SRPK2	MSA
68	SYK	MSA
68	TAK1-TAB1(MAP3K7)	ELISA
69	TAOK2	MSA
69	TBK1	MSA
69	TEC	MSA
69	TIE2(TEK)	MSA
69	TNIK	MSA
70	TNK1	MSA
70	TRKA(NTRK1)	MSA
70	TRKB(NTRK2)	MSA
70	TRKC(NTRK3)	MSA
70	TSSK1	MSA
71	TSSK2	MSA
71	TSSK3	MSA
71	TTK	ELISA
71	TXK	MSA
71	TYK2	MSA
72	TYRO3	MSA
72	WEE1	ELISA
72	WNK1	MSA
72	WNK2	MSA
72	WNK3	MSA
73	YES(YES1)	MSA
73	YES(YES1) [T348I]	MSA
73	ZAP70	MSA

<< Cascade Assay >>

Page	Kinase Name	Assay Platform
74	BRAF	MSA
74	BRAF [V600E]	MSA
74	COT(MAP3K8)	MSA
74	DLK(MAP3K12)	MSA
74	MAP2K1	MSA
75	MAP2K2	MSA
75	MAP2K3	MSA
75	MAP2K4	MSA
75	MAP2K5	MSA
75	MAP2K6	MSA
76	MAP2K7	MSA
76	MAP3K1	MSA
76	MAP3K2	MSA
76	MAP3K3	MSA
76	MAP3K4	MSA
77	MAP3K5	MSA
77	MLK1(MAP3K9)	MSA
77	MLK2(MAP3K10)	MSA
77	MLK3(MAP3K11)	MSA
77	MOS	MSA
78	RAF1	MSA
78	TAK1-TAB1(MAP3K7)	MSA

- The Kinase Company -

**Carna Biosciences, Inc.**

TEL : +81-78-302-7091 / FAX: +81-78-302-7086

Email: [info@carnabio.com](mailto:info@carnabio.com)

[www.carnabio.com](http://www.carnabio.com)

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**ABL(ABL1)**

Product code 08-001

Full-length human ABL [2-1130(end) amino acids of accession number NP\_005148.2] was expressed as N-terminal His-tagged protein (126 kDa) using baculovirus expression system. His-tagged ABL was purified by using Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : ABLtide  
 ATP ( $\mu$ M) Kmapp / Bin : 16 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 75  
 IC50 at 1 mM ATP (nM) : 1300

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**ABL(ABL1) [E255K]**

Product code 08-094

Full-length human ABL [2-1130(end) amino acids and E255K of accession number NP\_005148.2] was expressed as N-terminal His-tagged protein (126 kDa) using baculovirus expression system. His-tagged ABL[E255K] was purified by using Ni-NTA affinity chromatography .

Assay platform : Mobility Shift Assay  
 Substrate : ABLtide  
 ATP ( $\mu$ M) Kmapp / Bin : 17 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 140  
 IC50 at 1 mM ATP (nM) : 4500

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**ABL(ABL1) [T315I]**

Product code 08-093

Full-length human ABL [2-1130(end) amino acids and T315I of accession number NP\_005148.2] was expressed as N-terminal His-tagged protein (126 kDa) using baculovirus expression system. His-tagged ABL[T315I] was purified by using Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : ABLtide  
 ATP ( $\mu$ M) Kmapp / Bin : 4 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.4  
 IC50 at 1 mM ATP (nM) : 890

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**ACK(TNK2)**

Product code 08-196

Human ACK, catalytic domain [110-476 amino acids of accession number NP\_005772.3] was expressed as N-terminal GST-fusion protein (69 kDa) using baculovirus expression system. GST-ACK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : WASP peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 97 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.2  
 IC50 at 1 mM ATP (nM) : 3.8

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**AKT1**

Product code 01-101

Human AKT1, catalytic domain [104-480(end) amino acids of accession number NP\_005154.1] was co-expressed as N-terminal GST-fusion protein (70 kDa) with His-tagged PDK1 [1-556(end) amino acids of accession number NP\_002604.1] using baculovirus expression system. GST-AKT1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Crosstide  
 ATP ( $\mu$ M) Kmapp / Bin : 31 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.7  
 IC50 at 1 mM ATP (nM) : 22

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## **AKT2**

Product code 01-102

Human AKT2, catalytic domain [120-481(end) amino acids of accession number NP\_001617.1] was co-expressed as N-terminal GST-fusion protein (69 kDa) with His-tagged PDK1 [1-556(end) amino acids of accession number NP\_002604.1] using baculovirus expression system. GST-AKT2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Crosstide  
 ATP ( $\mu$ M) Kmapp / Bin : 110 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 5.2  
 IC50 at 1 mM ATP (nM) : n.a.

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## **AKT3**

Product code 01-103

Human AKT3, catalytic domain [108-479(end) amino acids of accession number NP\_005456.1] was co-expressed as N-terminal GST-fusion protein (70 kDa) with His-tagged PDK1 [1-556(end) amino acids of accession number NP\_002604.1] using baculovirus expression system. GST-AKT3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Crosstide  
 ATP ( $\mu$ M) Kmapp / Bin : 54 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.2  
 IC50 at 1 mM ATP (nM) : n.a.

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## **ALK**

Product code 08-518

Human ALK , cytoplasmic domain [1058-1620(end) amino acids of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Src tide  
 ATP ( $\mu$ M) Kmapp / Bin : 57 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.5  
 IC50 at 1 mM ATP (nM) : 15

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## **ALK [C1156Y]**

Product code 08-530

Human ALK , cytoplasmic domain [1058-1620(end) amino acids and C1156Y of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK[C1156Y] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Src tide  
 ATP ( $\mu$ M) Kmapp / Bin : 64 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.9  
 IC50 at 1 mM ATP (nM) : 11

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## **ALK [F1174L]**

Product code 08-519

Human ALK , cytoplasmic domain [1058-1620(end) amino acids and F1174L of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK[F1174L] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Src tide  
 ATP ( $\mu$ M) Kmapp / Bin : 49 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.4  
 IC50 at 1 mM ATP (nM) : 21

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## **ALK [G1202R]**

Product code 08-544

Human ALK , cytoplasmic domain [1058-1620(end) amino acids and G1202R of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK[G1202R] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 31 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 7.3  
 IC50 at 1 mM ATP (nM) : 69

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## **ALK [G1269A]**

Product code 08-537

Human ALK , cytoplasmic domain [1058-1620(end) amino acids and G1269A of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK[G1269A] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.36  
 IC50 at 1 mM ATP (nM) : 1.6

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## **ALK [L1196M]**

Product code 08-529

Human ALK , cytoplasmic domain [1058-1620(end) amino acids and L1196M of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK[L1196M] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 57 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.66  
 IC50 at 1 mM ATP (nM) : 4.3

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## **ALK [R1275Q]**

Product code 08-520

Human ALK , cytoplasmic domain [1058-1620(end) amino acids and R1275Q of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK[R1275Q] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 84 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.3  
 IC50 at 1 mM ATP (nM) : 16

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## **ALK [T1151\_L1152insT]**

Product code 08-539

Human ALK , cytoplasmic domain [1058-1620(end) amino acids and T1151\_L1152insT of accession number NP\_004295.2] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-ALK[T1151\_L1152insT] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 108 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.5  
 IC50 at 1 mM ATP (nM) : 16

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## ***EML4-ALK***

Product code 08-516

Fused gene of human fusion EML4-ALK [1-1059 amino acids of accession number BAF73611.1] was expressed as N-terminal GST-fusion protein (145 kDa) using baculovirus expression system. GST-EML4-ALK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 43 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.9  
 IC50 at 1 mM ATP (nM) : 16

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## ***AMPK $\alpha$ 1/ $\beta$ 1/ $\gamma$ 1(PRKAA1/B1/G1)***

Product code 02-113

Full-length human AMPK $\alpha$ 1 [1-550(end) amino acids of accession number NP\_006242.4] was co-expressed as N-terminal GST-fusion protein (90 kDa) with GST-PRKAB1 [1-270(end) amino acids of accession number NP\_006244.2] and PRKAG1 [1-331(end) amino acids of accession number NP\_002724.1] using baculovirus expression system. GST-AMPK $\alpha$ 1/ $\beta$ 1/ $\gamma$ 1 was purified by using glutathione sepharose chromatography and activated with His-tagged CaMKK1. Activated GST-AMPK $\alpha$ 1/ $\beta$ 1/ $\gamma$ 1 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SAMS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 130 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.41  
 IC50 at 1 mM ATP (nM) : 0.87

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## ***AMPK $\alpha$ 2/ $\beta$ 1/ $\gamma$ 1(PRKAA2/B1/G1)***

Product code 02-114

Full-length human AMPK $\alpha$ 2 [1-552(end) amino acids of accession number NP\_006243.2] was co-expressed as N-terminal GST-fusion protein (89 kDa) with GST-PRKAB1 [1-270(end) amino acids of accession number NP\_006244.2] and PRKAG1 [1-331(end) amino acids of accession number NP\_002724.1] using baculovirus expression system. GST-AMPK $\alpha$ 2/ $\beta$ 1/ $\gamma$ 1 was purified by using glutathione sepharose chromatography and activated with His-tagged CaMKK1. Activated GST-AMPK $\alpha$ 2/ $\beta$ 1/ $\gamma$ 1 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SAMS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 100 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.79  
 IC50 at 1 mM ATP (nM) : n.a.

---

## ***ARG(ABL2)***

Product code 08-102

Truncated human ARG [2-52, 74-1182(end) amino acids of accession number NP\_009298.1] was expressed as N-terminal GST-fusion protein (153 kDa) using baculovirus expression system. GST-ARG was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : ABLtide  
 ATP ( $\mu$ M) Kmapp / Bin : 24 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 27  
 IC50 at 1 mM ATP (nM) : 400

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## ***AurA(AURKA)***

Product code 05-101

Full-length human AurA [1-403(end) amino acids of accession number NP\_940835.1] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-AurA was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.8  
 IC50 at 1 mM ATP (nM) : 17

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***AurA(AURKA) / TPX2***

Product code 05-186

Full-length human AurA [1-403(end) amino acids of accession number NP\_940835.1] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-AurA was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 1.7 / 2  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.1  
 IC50 at 1 mM ATP (nM) : n.a.

---

***AurB(AURKB) / INCENP***

Product code 05-102

Full-length human AurB [1-344(end) amino acids of accession number NP\_004208.2] was co-expressed as N-terminal GST-fusion protein (66 kDa) with His-tagged INCENP(INBOX) [803-918(end) amino acids of accession number NP\_001035784.1] using baculovirus expression system. GST-AurB was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 16 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 7.1  
 IC50 at 1 mM ATP (nM) : 62

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***AurC(AURKC)***

Product code 05-103

Full-length human AurC [1-275(end) amino acids of accession number NP\_003151.2] was expressed as N-terminal GST-fusion protein (59 kDa) using baculovirus expression system. GST-AurC was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 24 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.1  
 IC50 at 1 mM ATP (nM) : 18

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***AXL***

Product code 08-107

Human AXL, cytoplasmic domain [464-885(end) amino acids of accession number NP\_001690.2] was expressed as N-terminal GST-fusion protein (74 kDa) using baculovirus expression system. GST-AXL was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 32 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.1  
 IC50 at 1 mM ATP (nM) : 7.9

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***BLK***

Product code 08-164

Full-length human BLK [1-505(end) amino acids of accession number NP\_001706.2] was expressed as N-terminal GST-fusion protein (85 kDa) using baculovirus expression system. GST-BLK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 62 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.6  
 IC50 at 1 mM ATP (nM) : 17



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## ***BMPR1A***

Product code 09-137

Catalytic domain of constitutive active human BMPR1A [Q233D] derived from wild type BMPR1A [187-532(end) amino acids of accession number NP\_004320.2] with N-terminal GST tag was co-expressed with BMPR2 [174-1038(end) amino acids of accession number NP\_001195.2] using baculovirus expression system. GST-BMPR1A (66 kDa) was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : Smad1  
 ATP ( $\mu$ M) Kmapp / Bin : 19 / 20  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 40  
 IC50 at 1 mM ATP (nM) : n.a.

---

## ***BMX***

Product code 08-179

Full-length human BMX [1-675(end) amino acids of accession number NP\_001712.1] was expressed as N-terminal GST-fusion protein (105 kDa) using baculovirus expression system. GST-BMX was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 75 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 10  
 IC50 at 1 mM ATP (nM) : 45

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## ***BRAF***

Product code 09-122

Human BRAF, catalytic domain [433-726 amino acid of accession number NP\_004324.2] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-BRAF was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K1  
 ATP ( $\mu$ M) Kmapp / Bin : 0.061 / 0.1  
 Metal : Mg  
 Reference compound : ZM336372  
 IC50 at ATP Bin (nM) : 230  
 IC50 at 1 mM ATP (nM) : n.a.

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## ***BRAF [V600E]***

Product code 09-144

Human BRAF, catalytic domain [433-726 amino acids and V600E of accession number NP\_004324.2] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-BRAF[V600E] was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K1  
 ATP ( $\mu$ M) Kmapp / Bin : 3.2 / 5  
 Metal : Mg  
 Reference compound : ZM336372  
 IC50 at ATP Bin (nM) : 560  
 IC50 at 1 mM ATP (nM) : n.a.

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## ***BRK(PTK6)***

Product code 08-165

Full-length human BRK [2-451(end) amino acids of accession number NP\_005966.1] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-BRK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 250 / 250  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 260  
 IC50 at 1 mM ATP (nM) : 390

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## **BRISK1**

Product code 02-115

Full-length human BRISK1 [1-778(end) amino acids of accession number NP\_115806.1] was expressed as N-terminal GST-fusion protein (112 kDa) using baculovirus expression system. GST-BRISK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 30 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.27  
 IC50 at 1 mM ATP (nM) : 0.57

---

## **BRISK2**

Product code 02-116

Full-length human BRISK2 [1-674(end) amino acids of accession number ABA17261.1] was expressed as N-terminal GST-fusion protein (102 kDa) using baculovirus expression system. GST-BRISK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 31 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.31  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **BTK**

Product code 08-180

Full-length human BTK [2-659(end) amino acids of accession number NP\_000052] was expressed as N-terminal GST-fusion protein (103 kDa) using baculovirus expression system. GST-BTK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srectide  
 ATP ( $\mu$ M) Kmapp / Bin : 22 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 24  
 IC50 at 1 mM ATP (nM) : 93

---

## **BTK [C481S]**

Product code 08-547

Full-length human BTK [2-659(end) amino acids and C481S of accession number NP\_000052] was expressed as N-terminal GST-fusion protein (103 kDa) using baculovirus expression system. GST-BTK[C481S] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srectide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 37  
 IC50 at 1 mM ATP (nM) : 170

---

## **BUB1 / BUB3**

Product code 05-187

Full-length human BUB1 [1-1085 (end) amino acids of accession number NP\_004327] was co-expressed as N-terminal GST-fusion protein (149 kDa) with DYKDDDDK tagged BUB3 [1-328 (end) amino acids of accession number NP\_004716] using baculovirus expression system. GST-BUB1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : H2A peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 2.9 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 300  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CaMK1 $\alpha$ (CAMK1)**

Product code 02-104

Full-length human CaMK1 $\alpha$  [1-370(end) amino acids of accession number NP\_003647.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-CaMK1 $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 750 / 1000  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 16  
 IC50 at 1 mM ATP (nM) : 16

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## **CaMK1 $\delta$ (CAMK1D)**

Product code 02-106

Full-length human CaMK1 $\delta$ [1-357(end) amino acid of accession number NP\_065130.1] was expressed as N-terminal GST-fusion protein (67 kDa) using baculovirus expression system. GST-CaMK1 $\delta$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Synapsin peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.5  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CaMK2 $\alpha$ (CAMK2A)**

Product code 02-109

Full-length human CaMK2 $\alpha$  [1-478(end) amino acids of accession number NP\_741960.1] was expressed as N-terminal GST-fusion protein (81 kDa) using baculovirus expression system. GST-CaMK2 $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 33 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.75  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CaMK2 $\beta$ (CAMK2B)**

Product code 02-110

Full-length human CaMK2 $\beta$  [1-503 amino acids of accession number NP\_742078.1] was expressed as N-terminal GST-fusion protein (83 kDa) using baculovirus expression system. GST-CaMK2 $\beta$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 19 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.54  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CaMK2 $\gamma$ (CAMK2G)**

Product code 02-112

Full-length human CaMK2 $\gamma$ [1-518(end) amino acids of accession number NP\_751910.1] was expressed as N-terminal GST-fusion protein (85 kDa) using baculovirus expression system. GST-CaMK2 $\gamma$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 23 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.39  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CaMK2δ (CAMK2D)**

Product code 02-111

Full-length human CaMK2δ [1-478 amino acids of accession number NP\_742113.1] was expressed as N-terminal GST-fusion protein (81 kDa) using baculovirus expression system. GST-CaMK2δ was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP (μM) Kmapp / Bin : 6.3 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.26  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CaMK4**

Product code 02-108

Full-length human CaMK4 [1-473(end) amino acids of accession number NP\_001735.1] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-CaMK4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP (μM) Kmapp / Bin : 20 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 140  
 IC50 at 1 mM ATP (nM) : 1000

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## **CDC2 / CycB1**

Product code 04-102

Full-length human CDC2 [1-297(end) amino acids of accession number NP\_001777.1] was co-expressed as N-terminal GST-fusion protein (61 kDa) with CyclinB1 [1-433(end) amino acids of accession number NP\_114172.1] using baculovirus expression system. GST-CDC2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Histone H1  
 ATP (μM) Kmapp / Bin : 34 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.3  
 IC50 at 1 mM ATP (nM) : 32

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## **CDC7 / ASK**

Product code 05-109

Full-length human CDC7 [1-574(end) amino acids of accession number NP\_003494.1] was co-expressed as N-terminal GST-fusion protein (92 kDa) with Dbf4(ASK) [1-674(end) amino acids of accession number NP\_006707.1] using baculovirus expression system. GST-CDC7 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MCM2 peptide  
 ATP (μM) Kmapp / Bin : 2.8 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 16  
 IC50 at 1 mM ATP (nM) : 1600

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## **CDK2 / CycA2**

Product code 04-103

Full-length human CDK2 [1-298(end) amino acids of accession number NP\_001789.2] was co-expressed as N-terminal GST-tagged protein (61 kDa) with GST-CyclinA2 [1-432(end) amino acids of accession number NP\_001228.1] using baculovirus expression system. GST-CDK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Histone H1  
 ATP (μM) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : 7.1

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## **CDK2/ CycE1**

Product code 04-165

Full-length human CDK2 [1-298(end) amino acids of accession number NP\_001789.2] was co-expressed as N-terminal GST-tagged protein (61 kDa) with CyclinE1 [1-410(end) amino acids of accession number NP\_001229.1] using baculovirus expression system. GST-CDK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Histone H1  
 ATP ( $\mu$ M) Kmapp / Bin : 130 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.8  
 IC50 at 1 mM ATP (nM) : 10

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## **CDK3/ CycE1**

Product code 04-104

Full-length human CDK3 [1-305(end) amino acids of accession number NP\_001249.1] was co-expressed as N-terminal GST-fusion protein (62kDa) with CyclinE1 [1-410(end) amino acids of accession number NP\_001229.1] using baculovirus expression system. GST-CDK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Histone H1  
 ATP ( $\mu$ M) Kmapp / Bin : 1000 / 1000  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.4  
 IC50 at 1 mM ATP (nM) : 3.4

---

## **CDK4/ CycD3**

Product code 04-105

Full-length human CDK4 [1-303(end) amino acids of accession number NP\_000066.1] was co-expressed as N-terminal GST-fusion protein (61 kDa) with human GST-CyclinD3 [1-292(end) amino acids of accession number AAA51927.1] using baculovirus expression system. GST-CDK4/CycD3 was purified by using glutathione sepharose chromatography and activated with His-tagged CDK7. Activated GST-CDK4/CycD3 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 200 / 200  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 13  
 IC50 at 1 mM ATP (nM) : 52

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## **CDK5/ p25**

Product code 04-106

Full-length human CDK5 [1-292(end) amino acids of accession number NP\_004926.1] was co-expressed as N-terminal GST-fusion protein (60 kDa) with p25 [99-307(end) amino acids of accession number NP\_003876.1] using baculovirus expression system. GST-CDK5 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Histone H1  
 ATP ( $\mu$ M) Kmapp / Bin : 10 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.5  
 IC50 at 1 mM ATP (nM) : 86

---

## **CDK6/ CycD3**

Product code 04-107

Full-length human CDK6 [1-326(end) amino acids of accession number NP\_001250.1] was co-expressed as N-terminal GST-fusion protein (64 kDa) with human GST-CyclinD3 [1-292(end) amino acids of accession number AAA51927.1] using baculovirus expression system. GST-CDK6/CycD3 was purified by using glutathione sepharose chromatography and activated with His-tagged CDK7. Activated GST-CDK6/CycD3 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 330 / 300  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 58  
 IC50 at 1 mM ATP (nM) : 110

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## **CDK7 / Cych / MAT1**

Product code 04-108

Full-length human CDK7 [1-346(end) amino acids of accession number NP\_001790.1] was co-expressed as N-terminal GST-fusion protein (66 kDa) with CyclinH [1-323(end) amino acids of accession number NP\_001230.1] and MAT1 [1-309(end) amino acids of accession number NP\_002422.1] using baculovirus expression system. GST-CDK7 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CTD3 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 32 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 17  
 IC50 at 1 mM ATP (nM) : 120

---

## **CDK9 / CycT1**

Product code 04-110

Full-length human CDK9 [1-372(end) amino acids of accession number NP\_001252.1] was co-expressed as N-terminal GST-fusion protein (70 kDa) with His-CyclinT1 [1-726(end) amino acids of accession number NP\_001231.2] using baculovirus expression system. GST-CDK9 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDK9 substrate  
 ATP ( $\mu$ M) Kmapp / Bin : 9.4 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 5.2  
 IC50 at 1 mM ATP (nM) : 130

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## **CGK2 (PRKG2)**

Product code 01-143

Full-length human CGK2 [1-762(end) amino acids of accession number NP\_006250.1] was expressed as N-terminal GST-fusion protein (114 kDa) using baculovirus expression system. GST-CGK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 24 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.88  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CHK1 (CHEK1)**

Product code 02-117

Full-length human CHK1 [1-476(end) amino acids of accession number NP\_001265.1] was expressed as N-terminal GST-fusion protein (81 kDa) using baculovirus expression system. GST-CHK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 50 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.24  
 IC50 at 1 mM ATP (nM) : 1.1

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## **CHK2 (CHEK2)**

Product code 02-162

Full-length human CHK2 [1-543(end) amino acids of accession number NP\_009125.1] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-CHK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 51 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 11  
 IC50 at 1 mM ATP (nM) : 25

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### **CK1 $\alpha$ (CSNK1A1)**

Product code 03-101

Full-length human CK1 $\alpha$  [1-337(end) amino acids of accession number NP\_001883.4] was expressed as N-terminal GST-fusion protein (66 kDa) using baculovirus expression system. GST-CK1 $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 4.1 / 5  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 150  
 IC50 at 1 mM ATP (nM) : >10000

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### **CK1 $\gamma$ 1(CSNK1G1)**

Product code 03-105

Full-length human CK1 $\gamma$ 1 [1-422(end) amino acids of accession number NP\_071331.2] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-CK1 $\gamma$ 1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 6.3 / 5  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 1300  
 IC50 at 1 mM ATP (nM) : n.a.

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### **CK1 $\gamma$ 2(CSNK1G2)**

Product code 03-106

Full-length human CK1 $\gamma$ 2 [1-415(end) amino acids of accession number NP\_001310.3] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-CK1 $\gamma$ 2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 10 / 10  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 510  
 IC50 at 1 mM ATP (nM) : n.a.

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### **CK1 $\gamma$ 3(CSNK1G3)**

Product code 03-107

Full-length human CK1 $\gamma$ 3 [1-447(end) amino acids of accession number NP\_004375.2] was expressed as N-terminal GST-fusion protein (78 kDa) using baculovirus expression system. GST-CK1 $\gamma$ 3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.2 / 5  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 920  
 IC50 at 1 mM ATP (nM) : n.a.

---

### **CK1 $\delta$ (CSNK1D)**

Product code 03-103

Human CK1 $\delta$ , catalytic domain [1-294 amino acids of accession number NP\_001884.2] was expressed as N-terminal GST-fusion protein (61 kDa) using E. coli expression system. GST-CK1 $\delta$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.7 / 10  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 25  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CK1ε(CSNK1E)**

Product code 03-104

Human CK1ε, catalytic domain [1-348 amino acids of accession number NP\_001885.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-CK1ε was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CKtide  
 ATP (μM) Kmapp / Bin : 16 / 25  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 300  
 IC50 at 1 mM ATP (nM) : 5800

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## **CK2α1/β(CSNK2A1/B)**

Product code 05-184

Full-length human CK2α1 [1-391(end) amino acids of accession number NP\_001886.1] was co-expressed as N-terminal GST-fusion protein (72 kDa) with human His-tagged CK2β [1-215 amino acids of accession number NP\_001311.3] using baculovirus expression system. GST-CK2α1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CK2tide  
 ATP (μM) Kmapp / Bin : 2.9 / 5  
 Metal : Mg  
 Reference compound : TBB  
 IC50 at ATP Bin (nM) : 60  
 IC50 at 1 mM ATP (nM) : 4800

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## **CK2α2/β(CSNK2A2/B)**

Product code 05-185

Full-length human CK2α2 [1-350(end) amino acids of accession number NP\_001887.1] was co-expressed as N-terminal GST-fusion protein (68 kDa) with human His-tagged CK2β [1-215 amino acids of accession number NP\_001311.3] using baculovirus expression system. GST-CK2α2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CK2tide  
 ATP (μM) Kmapp / Bin : 2.1 / 5  
 Metal : Mg  
 Reference compound : TBB  
 IC50 at ATP Bin (nM) : 50  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **CLK1**

Product code 04-126

Human CLK1, catalytic domain [129-484(end) amino acids of accession number NP\_004062.2] was expressed as N-terminal GST-fusion protein (69 kDa) using baculovirus expression system. GST-CLK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP (μM) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 9.6  
 IC50 at 1 mM ATP (nM) : 60

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## **CLK2**

Product code 04-127

Full-length human CLK2 [1-499(end) amino acids of accession number AAH53603.1] was expressed as N-terminal GST-fusion protein (87 kDa) using baculovirus expression system. GST-CLK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP (μM) Kmapp / Bin : 140 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 4.6  
 IC50 at 1 mM ATP (nM) : 28



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## **CLK3**

Product code 04-128

Full-length human CLK3 [1-490(end) amino acids of accession number AAH02555.1] was expressed as N-terminal GST-fusion protein (86 kDa) using baculovirus expression system. GST-CLK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 75 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 820  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **COT(MAP3K8)**

Product code 07-301

Human COT, catalytic domain [30-397 amino acids of accession number NP\_005195.2] was expressed as N-terminal GST-fusion protein using baculovirus expression system. GST-COT was purified by using glutathione sepharose chromatography. GST-COT was cleaved by PreScission protease and GST-free COT (42 kDa) was collected as flow-through fraction from glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K1 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.3 / 10  
 Metal : Mn  
 Reference compound : K252b  
 IC50 at ATP Bin (nM) : 4500  
 IC50 at 1 mM ATP (nM) : n.a.

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## **CRIK(CIT)**

Product code 01-104

Human citron kinase (CRIK), catalytic domain [1-449 amino acids of accession number NP\_009105.1] was expressed as N-terminal GST fusion protein (77 kDa) using baculovirus expression system. GST-CRIK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Histone H3 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.8 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 31  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **CSK**

Product code 08-111

Full-length human CSK [1-450(end) amino acids of accession number NP\_004374.1] was expressed as N-terminal GST-fusion protein (78 kDa) using baculovirus expression system. GST-CSK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Src tide  
 ATP ( $\mu$ M) Kmapp / Bin : 4.8 / 5  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 53  
 IC50 at 1 mM ATP (nM) : 1500

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## **DAPK1**

Product code 02-134

Human DAPK1, catalytic domain [1-289 amino acids of accession number NP\_004929.1] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-DAPK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DAPK1 tide  
 ATP ( $\mu$ M) Kmapp / Bin : 1.1 / 1  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.9  
 IC50 at 1 mM ATP (nM) : 490

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## **DCAMKL2**

Product code 02-140

Truncated human DCAMKL2 [1-691 amino acids and Q353 deletion of accession number NP\_001035350.2] was expressed as N-terminal GST-fusion protein (103 kDa) using baculovirus expression system. GST-DCAMKL2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 120 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 22  
 IC50 at 1 mM ATP (nM) : n.a.

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## **DDR1**

Product code 08-113

Human DDR1, cytoplasmic domain [444-876(end) amino acids of accession number NP\_001945.3] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-DDR1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 94 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 4.0  
 IC50 at 1 mM ATP (nM) : 3.1

---

## **DDR2**

Product code 08-114

Human DDR2, cytoplasmic domain [422-855(end) amino acids of accession number NP\_006173.2] was expressed as N-terminal GST-fusion protein (77 kDa) using baculovirus expression system. GST-DDR2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 38 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.2  
 IC50 at 1 mM ATP (nM) : 0.77

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## **DGK $\alpha$ (DGKA)**

Product code 12-401-20N

Full-length human DGK $\alpha$  [1-735(end) amino acids of accession number NP\_958852.1] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (87 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP ( $\mu$ M) Kmapp / Bin : 128 / 100  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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## **DGK $\beta$ (DGKB)**

Product code 12-402-20N

Full-length human DGK $\beta$  [1-804(end) amino acids and Q379 deletion of accession number NP\_004071] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (95 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP ( $\mu$ M) Kmapp / Bin : 61 / 50  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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### ***DGK $\gamma$* (DGKG)**

Product code [12-403-20N](#)

Full-length human DGK $\gamma$  [1-791(end) amino acids and T142S and R316K of accession number NP\_001337.2] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (94 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP ( $\mu$ M) Kmapp / Bin : 55 / 50  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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### ***DGK $\delta$* (DGKD)**

Product code [12-404-20N](#)

Catalytic domain of human DGK $\delta$  [1-1141 amino acids of accession number NP\_690618.2] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (131 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP ( $\mu$ M) Kmapp / Bin : 117 / 100  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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### ***DGK $\epsilon$* (DGKE)**

Product code [12-415-20N](#)

Truncated human DGK $\epsilon$  [48-567(end) amino acids of accession number NP\_003638.1] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (63 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP ( $\mu$ M) Kmapp / Bin : 124 / 100  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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### ***DGK $\zeta$* (DGKZ)**

Product code [12-410-20N](#)

Full-length human DGK $\zeta$  [1-929(end) amino acids of accession number NP\_003637.2] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (109 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP ( $\mu$ M) Kmapp / Bin : 25 / 25  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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### ***DGK $\eta$* (DGKH)**

Product code [12-406-20N](#)

Catalytic domain of human DGK $\eta$  [1-1147 amino acids of accession number NP\_821077.1] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (131 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP ( $\mu$ M) Kmapp / Bin : 24 / 25  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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## ***DGKθ(DGKQ)***

Product code 12-409-20N

Full-length human DGKθ [1-942(end) amino acids of accession number NP\_001338.2] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (106 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP (μM) Kmapp / Bin : 37 / 50  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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## ***DGKι(DGKI)***

Product code 12-407-20N

Full-length human DGKι [1-1065(end) amino acids of accession number NP\_004708.1] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (122 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP (μM) Kmapp / Bin : 34 / 50  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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## ***DGKκ(DGKK)***

Product code 12-408-20N

Full-length human DGKκ [1-1271(end) amino acids and D1118N of accession number NP\_001013764.1] was expressed as N-terminal DYKDDDDK tagged, biotinylated protein (146 kDa) using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : Diacylglycerol  
 ATP (μM) Kmapp / Bin : 17 / 25  
 Metal : Mg  
 Reference compound : Non-disclosable  
 IC50 at ATP Bin (nM) :  
 IC50 at 1 mM ATP (nM) :

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## ***DLK(MAP3K12)***

Product code 09-111

Human DLK, catalytic domain [1-520 amino acid of accession number NP\_006292.3] was expressed as N-terminal GST-fusion protein (86 kDa) using baculovirus expression system. GST-DLK was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP (μM) Kmapp / Bin : 18 / 20  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 370  
 IC50 at 1 mM ATP (nM) : n.a.

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## ***DYRK1A***

Product code 04-130

Full-length human DYRK1A [1-763(end) amino acids of accession number NP\_001387.2] was expressed as N-terminal GST-fusion protein (112 kDa) using baculovirus expression system. GST-DYRK1A was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP (μM) Kmapp / Bin : 16 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 7.8  
 IC50 at 1 mM ATP (nM) : 120

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## **DYRK1B**

Product code 04-131

Full-length human DYRK1B [1-629(end) amino acids of accession number NP\_004705.1] was expressed as N-terminal GST-fusion protein (96 kDa) using baculovirus expression system. GST-DYRK1B was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 59 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.2  
 IC50 at 1 mM ATP (nM) : 32

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## **DYRK2**

Product code 04-132

Full-length human DYRK2 [1-528(end) amino acids of accession number NP\_003574.1] was expressed as N-terminal GST-fusion protein (87 kDa) using baculovirus expression system. GST-DYRK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 7.7 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 130  
 IC50 at 1 mM ATP (nM) : n.a.

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## **DYRK3**

Product code 04-133

Full-length human DYRK3 [1-588(end) amino acids of accession number NP\_003573.2] was expressed as N-terminal GST-fusion protein (93 kDa) using baculovirus expression system. GST-DYRK3 was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 6.8 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 17  
 IC50 at 1 mM ATP (nM) : n.a.

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## **EEF2K**

Product code 10-113

Full-length human EEF2K [1-725(end) amino acids of accession number NP\_037434.1] was expressed as N-terminal GST-fusion protein (109 kDa) using E. coli expression system. GST-EEF2K was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : EEF2Ktide  
 ATP ( $\mu$ M) Kmapp / Bin : 12 / 10  
 Metal : Mg  
 Reference compound : NH125  
 IC50 at ATP Bin (nM) : 3800  
 IC50 at 1 mM ATP (nM) : n.a.

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## **EGFR**

Product code 08-115

Human EGFR, cytoplasmic domain [669-1210(end) amino acids of accession number NP\_005219.2] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-EGFR was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 2.7 / 5  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 53  
 IC50 at 1 mM ATP (nM) : 7700

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## **EGFR [d746-750]**

Product code 08-527

Human EGFR, cytoplasmic domain [669-745, 751-1210(end) amino acids of accession number NP\_005219.2] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-EGFR[d746-750aa] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 19 / 25  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 13  
 IC50 at 1 mM ATP (nM) : 93

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## **EGFR [d746-750 / T790M]**

Product code 08-528

Human EGFR, cytoplasmic domain [669-745, 751-1210(end) amino acids and T790M of accession number NP\_005219.2] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-EGFR [d746-750aa/T790M] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 5.4 / 5  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.52  
 IC50 at 1 mM ATP (nM) : 9.7

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## **EGFR [L858R]**

Product code 08-502

Human EGFR, cytoplasmic domain [669-1210(end) amino acids and L858R of accession number NP\_005219.2] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-EGFR[L858R] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 9.8 / 10  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 11  
 IC50 at 1 mM ATP (nM) : 360

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## **EGFR [L861Q]**

Product code 08-513

Human EGFR, cytoplasmic domain [669-1210(end) amino acids and L861Q of accession number NP\_005219.2] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-EGFR[L861Q] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.5 / 10  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 68  
 IC50 at 1 mM ATP (nM) : 2200

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## **EGFR [T790M]**

Product code 08-194

Human EGFR, cytoplasmic domain [669-1210(end) amino acids and T790M of accession number NP\_005219.2] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-EGFR[T790M] was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 0.9 / 1  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.8  
 IC50 at 1 mM ATP (nM) : 190

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## **EGFR [T790M / L858R]**

Product code 08-510

Human EGFR, cytoplasmic domain [669-1210(end) amino acids and T790M/L858R of accession number NP\_005219.2] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-EGFR[T790M/L858R] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 1.9 / 2  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : 56

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## **EPHA1**

Product code 08-119

Human EPHA1, cytoplasmic domain [586-976(end) amino acids of accession number NP\_005223.3] was expressed as N-terminal GST-fusion protein (71 kDa) using baculovirus expression system. GST-EPHA1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 22 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 20  
 IC50 at 1 mM ATP (nM) : 340

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## **EPHA2**

Product code 08-121

Human EPHA2, cytoplasmic domain [572-976(end) amino acids of accession number NP\_004422.2] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-EPHA2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 67 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 159  
 IC50 at 1 mM ATP (nM) : 530

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## **EPHA3**

Product code 08-122

Human EPHA3, cytoplasmic domain [579-983(end) amino acids of accession number NP\_005224.2] was expressed as N-terminal GST-fusion protein (72 kDa) using baculovirus expression system. GST-EPHA3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 170 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 37  
 IC50 at 1 mM ATP (nM) : 76

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## **EPHA4**

Product code 08-123

Human EPHA4, cytoplasmic domain [586-986(end) amino acids of accession number NP\_004429.1] was expressed as N-terminal GST-fusion protein (72 kDa) using baculovirus expression system. GST-EPHA4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 52 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 50  
 IC50 at 1 mM ATP (nM) : 330

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## **EPHA5**

Product code 08-124

Human EPHA5, catalytic domain [662-948 amino acids of accession number NP\_004430.3] was expressed as N-terminal GST-fusion protein (59 kDa) using baculovirus expression system. GST-EPHA5 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 56 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 34  
 IC50 at 1 mM ATP (nM) : 220

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## **EPHA6**

Product code 08-125

Human EPHA6, cytoplasmic domain [683-1130(end) amino acids of accession number NP\_001073917.2] was expressed as N-terminal GST-fusion protein (77 kDa) using baculovirus expression system. GST-EPHA6 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 17  
 IC50 at 1 mM ATP (nM) : 60

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## **EPHA7**

Product code 08-126

Human EPHA7, cytoplasmic domain [595-998(end) amino acids of accession number NP\_004431.1] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-EPHA7 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 58 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 48  
 IC50 at 1 mM ATP (nM) : 480

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## **EPHA8**

Product code 08-127

Human EPHA8, catalytic domain [571-924 amino acids of accession number NP\_065387.1] was expressed as N-terminal GST-fusion protein (67 kDa) using baculovirus expression system. GST-EPHA8 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 69 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 61  
 IC50 at 1 mM ATP (nM) : 240

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## **EPHB1**

Product code 08-128

Human EPHB1, cytoplasmic domain [578-984(end) amino acids of accession number NP\_004432.1] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-EPHB1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 29 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 53  
 IC50 at 1 mM ATP (nM) : 760



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## **EPHB2**

Product code 08-129

Human EPHB2, cytoplasmic domain [581-987(end) amino acids of accession number NP\_004433.2] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-EPHB2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 86 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 73  
 IC50 at 1 mM ATP (nM) : 400

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## **EPHB3**

Product code 08-130

Human EPHB3, cytoplasmic domain [596-998(end) amino acids of accession number NP\_004434.2] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-EPHB3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 49 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2000  
 IC50 at 1 mM ATP (nM) : >10000

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## **EPHB4**

Product code 08-131

Human EPHB4, cytoplasmic domain [577-987(end) amino acids of accession number NP\_004435.3] was expressed as N-terminal GST-protein (73 kDa) using baculovirus expression system. GST-EPHB4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 56 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 230  
 IC50 at 1 mM ATP (nM) : 1500

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## **Erk1(MAPK3)**

Product code 04-142

Full-length human Erk1 [1-379(end) amino acids of accession number NP\_002737.1] was expressed as N-terminal GST-fusion protein (70 kDa) using E.coli expression system. GST-Erk1 was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K1. Activated GST-Erk1 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 34 / 50  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 870  
 IC50 at 1 mM ATP (nM) : >10000

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## **Erk2(MAPK1)**

Product code 04-143

Full-length human Erk2 [1-360(end) amino acids of accession number NP\_002736.3] was expressed as N-terminal GST-fusion protein (69 kDa) using E.coli expression system. GST-Erk2 was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K1. Activated GST-Erk2 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 33 / 50  
 Metal : Mg  
 Reference compound : 5-Iodotubercidin  
 IC50 at ATP Bin (nM) : 1200  
 IC50 at 1 mM ATP (nM) : >10000

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## **Erk5(MAPK7)**

Product code 04-146

Human Erk5, catalytic domain [1-398 amino acids of accession number NP\_002740.2] was expressed as N-terminal GST-fusion protein (72 kDa) using E. coli expression system. GST-Erk5 was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K5. Activated GST-Erk5 was purified using Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : EGFR-derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 450 / 1000  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 280  
 IC50 at 1 mM ATP (nM) : 280

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## **FAK(PTK2)**

Product code 08-137

Truncated human FAK[376-1052(end) amino acids of accession number NP\_722560.1] was expressed as N-terminal GST-fusion protein (103 kDa) using baculovirus expression system. GST-FAK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 25 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 47  
 IC50 at 1 mM ATP (nM) : 230

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## **FER**

Product code 08-139

Full-length human FER [1-822(end) amino acids of accession number NP\_005237.1] was expressed as N-terminal GST-fusion protein (122 kDa) using baculovirus expression system. GST-FER was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 26 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : 12

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## **FES**

Product code 08-140

Full-length human FES [1-413, 416-822(end) amino acids of accession number NP\_001996.1] was expressed as N-terminal GST-fusion protein (120 kDa) using baculovirus expression system. GST-FES was purified by using glutathione sepharose chromatography

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 43 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.9  
 IC50 at 1 mM ATP (nM) : 25

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## **FGFR1**

Product code 08-133

Human FGFR1, cytoplasmic domain [398-822(end) amino acids of accession number NP\_075598.2] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-FGFR1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 89 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.3  
 IC50 at 1 mM ATP (nM) : 12

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## **FGFR1 [V561M]**

Product code 08-536

Human FGFR1, cytoplasmic domain [398-822(end) amino acids and V561M of accession number NP\_075598.2] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-FGFR1[V561M] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 33 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.14  
 IC50 at 1 mM ATP (nM) : 1.3

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## **FGFR2**

Product code 08-134

Human FGFR2, cytoplasmic domain [399-821(end) amino acids of accession number NP\_000132.1] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-FGFR2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 66 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.4  
 IC50 at 1 mM ATP (nM) : 5.4

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## **FGFR2 [V564I]**

Product code 08-546

Human FGFR2, cytoplasmic domain [399-821(end) amino acids and V564I of accession number NP\_000132] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-FGFR2[V564I] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 21 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.0  
 IC50 at 1 mM ATP (nM) : 47

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## **FGFR3**

Product code 08-135

Human FGFR3, cytoplasmic domain [436-806(end) amino acids of accession number NP\_000133.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-FGFR3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 43 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.6  
 IC50 at 1 mM ATP (nM) : 15

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## **FGFR3 [K650E]**

Product code 08-501

Human FGFR3, cytoplasmic domain [436-806(end) amino acids and K650E of accession number NP\_000133.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-FGFR3[K650E] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 41 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.2  
 IC50 at 1 mM ATP (nM) : 14

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## **FGFR3 [K650M]**

Product code 08-199

Human FGFR3, cytoplasmic domain [436-806(end) amino acids and K650M of accession number NP\_000133.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-FGFR3[K650M] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 17 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.68  
 IC50 at 1 mM ATP (nM) : 17

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## **FGFR3 [V555L]**

Product code 08-548

Human FGFR3, cytoplasmic domain [436-806(end) amino acids and V555L of accession number NP\_000133.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-FGFR3[V555L] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 29 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.49  
 IC50 at 1 mM ATP (nM) : 9.4

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## **FGFR3 [V555M]**

Product code 08-543

Human FGFR3, cytoplasmic domain [436-806(end) amino acids and V555M of accession number NP\_000133.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-FGFR3[V555M] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 37 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.21  
 IC50 at 1 mM ATP (nM) : 1.8

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## **FGFR4**

Product code 08-136

Human FGFR4, cytoplasmic domain [460-802(end) amino acids of accession number NP\_002002.3] was expressed as N-terminal GST-fusion protein (65 kDa) using baculovirus expression system. GST-FGFR4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 230 / 250  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 43  
 IC50 at 1 mM ATP (nM) : 120

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## **FGFR4 [N535K]**

Product code 08-524

Human FGFR4, cytoplasmic domain [460-802(end) amino acids and N535K of accession number NP\_002002.3] was expressed as N-terminal GST-fusion protein (65 kDa) using baculovirus expression system. GST-FGFR4[N535K] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 30 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 160  
 IC50 at 1 mM ATP (nM) : 1200

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## **FGFR4 [V550E]**

Product code 08-525

Human FGFR4, cytoplasmic domain [460-802(end) amino acids and V550E of accession number NP\_002002.3] was expressed as N-terminal GST-fusion protein (65 kDa) using baculovirus expression system. GST-FGFR4[V550E] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 210 / 200  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 370  
 IC50 at 1 mM ATP (nM) : 1300

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## **FGFR4 [V550L]**

Product code 08-526

Human FGFR4, cytoplasmic domain [460-802(end) amino acids and V550L of accession number NP\_002002.3] was expressed as N-terminal GST-fusion protein (65 kDa) using baculovirus expression system. GST-FGFR4[V550L] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 160 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 10  
 IC50 at 1 mM ATP (nM) : 44

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## **FGR**

Product code 08-166

Full-length human FGR [1-529(end) amino acids of accession number NP\_005239.1] was expressed as N-terminal GST-fusion protein (86 kDa) using baculovirus expression system. GST-FGR was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 34 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.3  
 IC50 at 1 mM ATP (nM) : 16

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## **FLT1**

Product code 08-189

Human FLT1, cytoplasmic domain [781-1338(end) amino acids of accession number NP\_002010.1] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-FLT1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 140 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.2  
 IC50 at 1 mM ATP (nM) : 6.8

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## **FLT3**

Product code 08-154

Human FLT3, cytoplasmic domain [564-993(end) amino acids of accession number NP\_004110.2] was expressed as N-terminal GST-fusion protein (77 kDa) using baculovirus expression system. GST-FLT3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 94 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.20  
 IC50 at 1 mM ATP (nM) : 0.34

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**FLT4**

Product code 08-190

Human FLT4, cytoplasmic domain [798-1298(end) amino acids of accession number NP\_002011.1] was expressed as N-terminal GST-fusion protein (83 kDa) using baculovirus expression system. GST-FLT4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 72 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.66  
 IC50 at 1 mM ATP (nM) : 2.4

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**FMS(CSF1R)**

Product code 08-155

Human FMS, cytoplasmic domain [538-972(end) amino acids of accession number NP\_005202.2] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-FMS was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 26 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.26  
 IC50 at 1 mM ATP (nM) : 0.70

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**FRK**

Product code 08-167

Human FRK, catalytic domain [223-505(end) amino acids of accession number NP\_002022.1] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-FRK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 62 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.4  
 IC50 at 1 mM ATP (nM) : 40

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**FYN [isoform a]**

Product code 08-168

Full-length human FYN [isoform a] [1-537(end) amino acids of accession number NP\_002028.1] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-FYN [isoform a] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 36 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.9  
 IC50 at 1 mM ATP (nM) : 24

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**FYN [isoform b]**

Product code 08-531

Full-length human FYN [isoform b] [1-534(end) amino acids of accession number NP\_694592.1] was expressed as N-terminal GST-fusion protein (87 kDa) using baculovirus expression system. GST-FYN [isoform b] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 20 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.8  
 IC50 at 1 mM ATP (nM) : 42

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## **GSK3 $\alpha$ (GSK3A)**

Product code 04-140

Full-length human GSK3 $\alpha$  [1-483(end) amino acids of accession number NP\_063937.2] was expressed as N-terminal GST-fusion protein (78 kDa) using baculovirus expression system. GST-GSK3 $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CREBtide-p  
 ATP ( $\mu$ M) Kmapp / Bin : 12 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 15  
 IC50 at 1 mM ATP (nM) : 180

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## **GSK3 $\beta$ (GSK3B)**

Product code 04-141

Full-length human GSK3 $\beta$  [1-420(end) amino acids of accession number NP\_001139628.1] was expressed as N-terminal GST-fusion protein (74 kDa) using baculovirus expression system. GST-GSK3 $\beta$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CREBtide-p  
 ATP ( $\mu$ M) Kmapp / Bin : 9.1 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 9.2  
 IC50 at 1 mM ATP (nM) : 240

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## **Haspin(GSG2)**

Product code 05-111

Full-length human Haspin [1-798(end) amino acids of accession number NP\_114171.2] was expressed as N-terminal GST-fusion protein (116 kDa) using baculovirus expression system. GST-Haspin was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Histone H3 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 140 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 5.8  
 IC50 at 1 mM ATP (nM) : n.a.

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## **HCK**

Product code 08-169

Truncated human HCK [25-526(end) amino acids of accession number NP\_002101.2] was expressed as N-terminal GST-fusion protein (84 kDa) using baculovirus expression system. GST-HCK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.1  
 IC50 at 1 mM ATP (nM) : 22

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## **HER2(ERBB2)**

Product code 08-016

Human HER2, cytoplasmic domain [676-1255(end) amino acids of accession number NP\_004439.1] was expressed as N-terminal His-tagged protein (67 kDa) using baculovirus expression system. His-tagged HER2 was purified by using Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.5 / 5  
 Metal : Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 90  
 IC50 at 1 mM ATP (nM) : >10000

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## **HER4(ERBB4)**

Product code 08-118

Human HER4, cytoplasmic domain [676-1308(end) amino acids of accession number NP\_005226.1] was expressed as N-terminal GST-fusion protein (99 kDa) using baculovirus expression system. GST-HER4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 34  
 IC50 at 1 mM ATP (nM) : 1000

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## **HGK(MAP4K4)**

Product code 07-137

Human HGK, catalytic domain [1-328 amino acids of accession number NP\_004825.2] was expressed as N-terminal GST-fusion protein (64 kDa) using baculovirus expression system. GST-HGK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Moesin-derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 9.4 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : 23

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## **HIPK1**

Product code 04-135

Human HIPK1, catalytic domain [158-555 amino acids of accession number NP\_689909.2] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-HIPK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 4.4 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 570  
 IC50 at 1 mM ATP (nM) : n.a.

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## **HIPK2**

Product code 04-136

Full-length human HIPK2 [1-1198(end) amino acids of accession number NP\_073577.3] was expressed as N-terminal GST-fusion protein (158 kDa) using baculovirus expression system. GST-HIPK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 5.9 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 170  
 IC50 at 1 mM ATP (nM) : n.a.

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## **HIPK3**

Product code 04-137

Human HIPK3, catalytic domain [161-562 amino acids of accession number NP\_005725.3] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-HIPK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 7.3 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 120  
 IC50 at 1 mM ATP (nM) : n.a.



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## **HIPK4**

Product code 04-138

Full-length human HIPK4 [1-616(end) amino acids of accession number NP\_653286.2] was expressed as N-terminal GST-fusion protein (96 kDa) using baculovirus expression system. GST-HIPK4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 7 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 71  
 IC50 at 1 mM ATP (nM) : >10000

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## **IGF1R**

Product code 08-141

Human IGF1R, cytoplasmic domain [959-1367(end) amino acids of accession number NP\_000866.1] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-IGF1R was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 63 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 40  
 IC50 at 1 mM ATP (nM) : 150

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## **IKK $\alpha$ (CHUK)**

Product code 05-112

Full-length human IKK $\alpha$  [1-745(end) amino acids of accession number NP\_001269.3] was expressed as N-terminal GST-fusion protein (111 kDa) using baculovirus expression system. GST-IKK $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : IMAP  
 Substrate : I $\kappa$ B $\alpha$  peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 41 / 40  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 310  
 IC50 at 1 mM ATP (nM) : n.a.

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## **IKK $\beta$ (IKKBK)**

Product code 05-084

Truncated human IKK $\beta$ [1-662 amino acids of accession number NP\_001547.1] was expressed as N-terminal His-tagged protein (77 kDa) using baculovirus expression system. His-tagged IKK $\beta$  was purified by using Ni-NTA affinity chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified I $\kappa$ B $\alpha$ -derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 16 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 410  
 IC50 at 1 mM ATP (nM) : >10000

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## **IKK $\epsilon$ (IKBKE)**

Product code 05-114

Full-length human IKK $\epsilon$  [1-716(end) amino acids of accession number NP\_054721.1] was expressed as N-terminal GST-fusion protein (108 kDa) using baculovirus expression system. GST-IKK $\epsilon$  was purified by using glutathione sepharose chromatography and gel filtration chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : I $\kappa$ B $\alpha$  peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 9.5 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.7  
 IC50 at 1 mM ATP (nM) : n.a.

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## **INSR**

Product code 08-142

Human INSR, catalytic domain [1005-1310 amino acids of accession number NP\_000199.1] was expressed as N-terminal GST-fusion protein (62 kDa) using baculovirus expression system. GST-INSR was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 58 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 12  
 IC50 at 1 mM ATP (nM) : 70

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## **IRAK1**

Product code 09-101

Truncated human IRAK1 [194-712(end) amino acids of accession number NP\_001560.2] was expressed as N-terminal GST-fusion protein (83 kDa) using baculovirus expression system. GST-IRAK1 was purified by using glutathione sepharose chromatography.

Assay platform : IMAP  
 Substrate : SRPKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 54  
 IC50 at 1 mM ATP (nM) : n.a.

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## **IRAK4**

Product code 09-145

Full-length human IRAK4 [1-460(end) amino acids of accession number NP\_057207.2] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-IRAK4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRAK1 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 917 / 1000  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.9  
 IC50 at 1 mM ATP (nM) : 6.9

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## **IRR(INSRR)**

Product code 08-143

Human IRR, cytoplasmic domain [953-1297(end) amino acids of accession number NP\_055030.1] was expressed as N-terminal GST-fusion protein (66 kDa) using baculovirus expression system. GST-IRR was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 64 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 15  
 IC50 at 1 mM ATP (nM) : 98

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## **ITK**

Product code 08-181

Full-length human ITK [2-620(end) amino acids of accession number NP\_005537.3] was expressed as N-terminal GST-fusion protein (99 kDa) using baculovirus expression system. GST-ITK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srcptide  
 ATP ( $\mu$ M) Kmapp / Bin : 6.1 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.2  
 IC50 at 1 mM ATP (nM) : 200

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## **JAK1**

Product code 08-144

Human JAK1, catalytic domain [850-1154(end) amino acids of accession number NP\_002218.2] was expressed as N-terminal GST-fusion protein (62 kDa) using baculovirus expression system. GST-JAK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : JAK1 substrate peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 68 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.71  
 IC50 at 1 mM ATP (nM) : 10

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## **JAK2**

Product code 08-045

Human JAK2, catalytic domain [826-1132(end) amino acids of accession number NP\_004963.1] was expressed as N-terminal His-tagged protein (39 kDa) using baculovirus expression system. His-tagged JAK2 was purified by using Ni-NTA affinity chromatography and gel filtration chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.34  
 IC50 at 1 mM ATP (nM) : 6.0

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## **JAK3**

Product code 08-046

Human JAK3, catalytic domain [795-1124(end) amino acids of accession number NP\_000206.2] was expressed as N-terminal His-tagged protein (41 kDa) using baculovirus expression system. His-tagged JAK3 was purified by using Ni-NTA affinity chromatography and gel filtration chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.5 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.20  
 IC50 at 1 mM ATP (nM) : 12

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## **JNK1(MAPK8)**

Product code 04-163

Human JNK1, catalytic domain [2-364 amino acids of accession number NP\_620634.1] was expressed as N-terminal GST-fusion protein (69 kDa) using E. coli expression system. GST-JNK1 was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K4 and MAP2K7. Activated GST-JNK1 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 29 / 100  
 Metal : Mg  
 Reference compound : JNK Inhibitor II  
 IC50 at ATP Bin (nM) : 1500  
 IC50 at 1 mM ATP (nM) : >10000

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## **JNK2(MAPK9)**

Product code 04-164

Human JNK2, catalytic domain [1-364 amino acids of accession number NP\_002743.3] was expressed as N-terminal GST-fusion protein (69 kDa) using E. coli expression system. GST-JNK2 was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K4 and MAP2K7. Activated GST-JNK2 was purified using glutathione sepharose chromatography and Ni-NTA chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 21 / 50  
 Metal : Mg  
 Reference compound : JNK Inhibitor II  
 IC50 at ATP Bin (nM) : 350  
 IC50 at 1 mM ATP (nM) : 7800

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## **JNK3(MAPK10)**

Product code 04-150

Full-length human JNK3 [1-426(end) amino acids of accession number NP\_620446.1] was expressed as N-terminal GST-fusion protein (75 kDa) using E.coli expression system. GST-JNK3 was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K4 and MAP2K7. Activated GST-JNK3 was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 6 / 25  
 Metal : Mg  
 Reference compound : JNK Inhibitor II  
 IC50 at ATP Bin (nM) : 300  
 IC50 at 1 mM ATP (nM) : >10000

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## **KDR**

Product code 08-191

Human KDR, cytoplasmic domain [790-1356(end) amino acids of accession number NP\_002244.1] was expressed as N-terminal GST-fusion protein (90 kDa) using baculovirus expression system. GST-KDR was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 74 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.1  
 IC50 at 1 mM ATP (nM) : 13

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## **KIT**

Product code 08-156

Human KIT, cytoplasmic domain [544-976(end) amino acids of accession number NP\_000213.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-KIT was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 370 / 400  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.2  
 IC50 at 1 mM ATP (nM) : 2.0

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## **KIT [D816E]**

Product code 08-541

Human KIT, cytoplasmic domain [544-976(end) amino acids and D816E of accession number NP\_000213.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-KIT[D816E] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 40 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.7  
 IC50 at 1 mM ATP (nM) : 1.31

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## **KIT [D816V]**

Product code 08-505

Human KIT, cytoplasmic domain [544-976(end) amino acids and D816V of accession number NP\_000213.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-KIT[D816V] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 14 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.18  
 IC50 at 1 mM ATP (nM) : 2.8

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## **KIT [D816Y]**

Product code 08-534

Human KIT, cytoplasmic domain [544-976(end) amino acids and D816Y of accession number NP\_000213.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-KIT[D816Y] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 22 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.27  
 IC50 at 1 mM ATP (nM) : 2.1

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## **KIT [T670I]**

Product code 08-195

Human KIT, cytoplasmic domain [544-976(end) amino acids and T670I of accession number NP\_000213.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-KIT[T670I] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 100 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.80  
 IC50 at 1 mM ATP (nM) : 3.4

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## **KIT [V560G]**

Product code 08-504

Human KIT, cytoplasmic domain [544-976(end) amino acids and V560G of accession number NP\_000213.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-KIT[V560G] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 110 / 250  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.2  
 IC50 at 1 mM ATP (nM) : 1.6

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## **KIT [V654A]**

Product code 08-511

Human KIT, cytoplasmic domain [544-976(end) amino acids and V654A of accession number NP\_000213.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-KIT[V654A] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 220 / 250  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 4.5  
 IC50 at 1 mM ATP (nM) : 8.2

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## **LATS2**

Product code 01-124

Human LATS2, catalytic domain [553-1088(end) amino acids of accession number NP\_055387.2] was co-expressed as N-terminal GST-fusion protein (89 kDa) with human His-tagged MOBKL1A [1-216(end) amino acids of accession number NP\_775739.1] using baculovirus expression system. GST-LATS2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 380 / 400  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.6  
 IC50 at 1 mM ATP (nM) : n.a.

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## **LCK**

Product code 08-170

Full-length human LCK [1-509(end) amino acids of accession number NP\_005347.2] was expressed as N-terminal GST-fusion protein (85 kDa) using baculovirus expression system. GST-LCK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 14 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.5  
 IC50 at 1 mM ATP (nM) : 14

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## **LIMK1**

Product code 09-105

Truncated human LIMK1 [285-638 amino acids of accession number NP\_002305.1] was co-expressed as N-terminal GST-fusion protein (68 kDa) with human His-tagged ROCK2 [1-553 amino acids of accession number NP\_004841.2] using baculovirus expression system. GST-LIMK1 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : Cofilin2  
 ATP ( $\mu$ M) Kmapp / Bin : 22 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.50  
 IC50 at 1 mM ATP (nM) : n.a.

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## **LKB1(STK11)/MO25 $\alpha$ /STRAD $\alpha$**

Product code 02-119

Full-length human LKB1 [1-433(end) amino acids of accession number NP\_000446.1], MO25 $\alpha$  [1-341(end) amino acids of accession number NP\_057373.1] and STRAD $\alpha$  [1-431(end) amino acids of accession number NP\_001003787.1] were co-expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-LKB1 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : LKBtide  
 ATP ( $\mu$ M) Kmapp / Bin : 120 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 54  
 IC50 at 1 mM ATP (nM) : n.a.

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## **LOK(STK10)**

Product code 07-315

Full-length human LOK [1-968(end) amino acids of accession number BAA35073.1] was expressed as N-terminal GST-fusion protein using baculovirus expression system. GST-LOK was purified by using glutathione sepharose chromatography. GST-LOK was cleaved by PreScission protease and GST-free LOK (114 kDa) was collected as flow-through fraction from glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Moesin-derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 100 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.49  
 IC50 at 1 mM ATP (nM) : n.a.

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## **LTK**

Product code 08-106

Human LTK, catalytic domain [498-796 amino acids of accession number NP\_002335.2] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-LTK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 49 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.0  
 IC50 at 1 mM ATP (nM) : 7.1

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## **LYNa**

Product code [08-171](#)

Full-length human LYNa [1-512(end) amino acids of accession number NP\_002341.1] was expressed as N-terminal GST-fusion protein (86 kDa) using baculovirus expression system. GST-LYNa was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 14 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.0  
 IC50 at 1 mM ATP (nM) : 22

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## **LYNb**

Product code [08-172](#)

Full-length human LYNb [1-491(end) amino acids of accession number AAB50019.1] was expressed as N-terminal GST-fusion protein (83 kDa) using baculovirus expression system. GST-LYNb was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 18 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.0  
 IC50 at 1 mM ATP (nM) : 21

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## **MAP2K1**

Product code [07-141](#)

Full-length human MAP2K1 [1-393(end) amino acids of accession number NP\_002746.1] was co-expressed as N-terminal GST-fusion protein (71 kDa) with human His-tagged RAF1 [306-648(end) amino acids and Y340D and Y341D of accession number NP\_002871.1] using baculovirus expression system. GST-MAP2K1 was purified by using glutathione sepharose chromatography and Ni-NTA affinity chromatography.

Assay platform : ELISA  
 Substrate : Erk2  
 ATP ( $\mu$ M) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.5  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP2K2**

Product code [07-142](#)

Full-length human MAP2K2 [1-400(end) amino acids of accession number NP\_109587.1] was co-expressed as N-terminal GST-fusion protein (71 kDa) with human His-tagged RAF1 [306-648(end) amino acids and Y340D and Y341D of accession number NP\_002871.1] using baculovirus expression system. GST-MAP2K2 was purified by using glutathione sepharose chromatography and Ni-NTA affinity chromatography.

Assay platform : ELISA  
 Substrate : Erk2  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 15  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.9  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP2K3**

Product code [07-143](#)

Full-length human MAP2K3 [1-347(end) amino acids of accession number NP\_659731.1] was co-expressed as N-terminal GST-fusion protein (67 kDa) with human His-tagged MLK3 [99-398 amino acids of accession number NP\_002410.1] using baculovirus expression system. GST-MAP2K3 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : p38 $\alpha$   
 ATP ( $\mu$ M) Kmapp / Bin : 0.36 / 0.5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.42  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP2K4**

Product code [07-144](#)

Full-length human MAP2K4 [1-399(end) amino acids of accession number NP\_003001.1] was co-expressed as N-terminal GST-fusion protein (71 kDa) with human His-tagged MAP3K3 [1-626(end) amino acids of accession number NP\_002392.2] using baculovirus expression system. GST-MAP2K4 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : JNK1  
 ATP ( $\mu$ M) Kmapp / Bin : 1.6 / 2  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 94  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP2K5**

Product code [07-145](#)

Full-length human MAP2K5 [1-448(end) amino acids of accession number NP\_660143.1] was co-expressed as N-terminal GST-fusion protein (77 kDa) with human His-tagged MAP3K3[1-626(end) amino acids of accession number NP\_002392.2] , CDC37 and HSP90 using baculovirus expression system. GST-MAP2K5 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : Erk5  
 ATP ( $\mu$ M) Kmapp / Bin : 1.2 / 1  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.2  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP2K6**

Product code [07-146](#)

Full-length human MAP2K6 [1-334(end) amino acids of accession number NP\_002749.2] was co-expressed as N-terminal GST-fusion protein (64 kDa) with human His-tagged MLK3 [99-398 amino acids of accession number NP\_002410.1] using baculovirus expression system. GST-MAP2K6 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : p38 $\alpha$   
 ATP ( $\mu$ M) Kmapp / Bin : 0.56 / 0.5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.44  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MAP2K7**

Product code [07-148](#)

Full-length human MAP2K7 [1-419(end) amino acids of accession number NP\_660186.1] was co-expressed as N-terminal GST-fusion protein (75 kDa) with human His-tagged MAP3K3 [1-626(end) amino acids of accession number NP\_002392.2] using baculovirus expression system. GST-MAP2K7 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : JNK1  
 ATP ( $\mu$ M) Kmapp / Bin : 2.7 / 3  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 56  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP3K1**

Product code [07-103](#)

Human MAP3K1, catalytic domain [1327-1646(end) amino acids of accession number XP\_042066.8] was expressed as N-terminal GST-fusion protein (62 kDa) using baculovirus expression system. GST-MAP3K1 was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : ELISA  
 Substrate : MAP2K1  
 ATP ( $\mu$ M) Kmapp / Bin : 1.1 / 1  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 580  
 IC50 at 1 mM ATP (nM) : n.a.



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## **MAP3K2**

Product code 07-104

Human MAP3K2, catalytic domain [337-620(end) amino acids of accession number NP\_006600.3] was expressed as N-terminal GST-fusion protein (59 kDa) using baculovirus expression system. GST-MAP3K2 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 0.83 / 1  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 9.0  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MAP3K3**

Product code 07-105

Full-length human MAP3K3 [1-626(end) amino acids of accession number NP\_002392.2] was expressed as N-terminal GST-fusion protein (98 kDa) using baculovirus expression system. GST-fusion MAP3K3 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 1.6 / 2  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 27  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP3K4**

Product code 07-106

Human MAP3K4, catalytic domain [1312-1608(end) amino acids of accession number NP\_005913.2] was expressed as N-terminal GST-fusion protein (61 kDa) using baculovirus expression system. GST-MAP3K4 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K6  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 31 / 30  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 170  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP3K5**

Product code 07-107

Human MAP3K5, catalytic domain [654-971 amino acids of accession number NP\_005914.1] was expressed as N-terminal GST-tagged protein (62 kDa) using baculovirus expression system. GST-MAP3K5 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 2 / 2  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 14  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAP4K2**

Product code 07-111

Full-length human MAP4K2 [1-820(end) amino acid of accession number NP\_004570.2] was expressed as N-terminal GST-fusion protein (119 kDa) using baculovirus expression system. GST-MAP4K2 was purified by using glutathione sepharose chromatography

Assay platform : Mobility Shift Assay  
 Substrate : S6K2 peptide  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 93 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.3  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAPKAPK2**

Product code 02-142

Full-length human MAPKAPK2 [1-400(end) amino acids of accession number NP\_116584.2] was co-expressed as N-terminal GST-fusion protein (73 kDa) with human His-tagged p38 $\beta$  [1-364(end) amino acids of accession number NP\_002742.3] and human His-tagged MAP2K6 [1-334(end) amino acids of accession number NP\_002749.2] using baculovirus expression system. GST-MAPKAPK2 was purified by using glutathione sepharose chromatography and Ni-NTA chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.6 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 80  
 IC50 at 1 mM ATP (nM) : 9300

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## **MAPKAPK3**

Product code 02-143

Full-length human MAPKAPK3 [1-382(end) amino acids of accession number NP\_004626.1] was co-expressed as N-terminal GST-fusion protein (70 kDa) with human His-tagged p38 $\beta$  [1-364(end) amino acids of accession number NP\_002742.3] and human His-tagged MAP2K6 [1-334(end) amino acids of accession number NP\_002749.2] using baculovirus expression system. GST-MAPKAPK3 was purified by using glutathione sepharose chromatography and Ni-NTA chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : K252b  
 IC50 at ATP Bin (nM) : 4200  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MAPKAPK5**

Product code 02-144

Full-length human MAPKAPK5 [1-471(end) amino acids of accession number NP\_003659.2] was co-expressed as N-terminal GST-fusion protein (81 kDa) with human His-tagged p38 $\beta$  [1-364(end) amino acids of accession number NP\_002742.3] and human His-tagged MAP2K6 [1-334(end) amino acids of accession number NP\_002749] using baculovirus expression system. GST-MAPKAPK5 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 12 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 320  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MARK1**

Product code 02-120

Full-length human MARK1 [1-795(end) amino acids of accession number AAF72103.1] was expressed as N-terminal GST-fusion protein (116 kDa) using baculovirus expression system. GST-MARK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 8 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.17  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MARK2**

Product code 02-121

Full-length human MARK2 [1-745(end) amino acids of accession number NP\_059672.2] was expressed as N-terminal GST-fusion protein (110 kDa) using baculovirus expression system. GST-MARK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 8.8 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.12  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MARK3**

Product code 02-122

Full-length human MARK3 [1-729(end) amino acids of accession number NP\_002367.4] was expressed as N-terminal GST-fusion protein (108 kDa) using baculovirus expression system. GST-MARK3 was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 5 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.20  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MARK4**

Product code 02-123

Full-length human MARK4 [1-688(end) amino acids of accession number NP\_113605.2] was expressed as N-terminal GST-fusion protein (103 kDa) using baculovirus expression system. GST-MARK4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 12 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.12  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MELK**

Product code 02-124

Truncated human MELK [1-493 amino acids of accession number NP\_055606.1] was expressed as N-terminal GST-fusion protein (83 kDa) using E. coli expression system. GST-MELK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 38 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.81  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MER(MERTK)**

Product code 08-108

Human MER, cytoplasmic domain [528-999(end) amino acids of accession number NP\_006334.2] was expressed as N-terminal GST-fusion protein (80 kDa) using baculovirus expression system. GST-MER was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 36 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.61  
 IC50 at 1 mM ATP (nM) : 5.3

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## **MET**

Product code 08-151

Human MET, cytoplasmic domain [956-1390(end) amino acids of accession number NP\_000236.2] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-MET was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 67  
 IC50 at 1 mM ATP (nM) : 730

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## **MET [D1228H]**

Product code 08-540

Human MET, cytoplasmic domain [956-1390(end) amino acids and D1228H of accession number NP\_000236.2] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-MET[D1228H] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 25 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 59  
 IC50 at 1 mM ATP (nM) : 1200

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## **MET [M1250T]**

Product code 08-545

Human MET, cytoplasmic domain [956-1390(end) amino acids and M1250T of accession number NP\_000236.2] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-MET[M1250T] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 17 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 86  
 IC50 at 1 mM ATP (nM) : 1900

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## **MET [Y1235D]**

Product code 08-198

Human MET, cytoplasmic domain [956-1390(end) amino acids and Y1235D of accession number NP\_000236.2] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-MET[Y1235D] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 71 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 79  
 IC50 at 1 mM ATP (nM) : 390

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## **MINK(MINK1)**

Product code 07-139

Human MINK, catalytic domain [1-314 amino acids of accession number NP\_056531.1] was expressed as N-terminal GST-fusion protein (63 kDa) using baculovirus expression system. GST-MINK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 16 / 50  
 Metal : Mg  
 Reference compound : K252b  
 IC50 at ATP Bin (nM) : 15  
 IC50 at 1 mM ATP (nM) : 120

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## **MLK1(MAP3K9)**

Product code 09-115

Human MLK1, catalytic domain [110-422 amino acids of accession number NP\_149132.2] was expressed as N-terminal GST-fusion protein (62kDa) using baculovirus expression system. GST-MLK1 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP ( $\mu$ M) Kmapp / Bin : 1.7 / 2  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.7  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MLK2(MAP3K10)**

Product code 09-116

Human MLK2, catalytic domain and leucine-zipper domain [75-462 amino acids of accession number NP\_002437.2] was expressed as N-terminal GST-fusion protein (71kDa) using baculovirus expression system. GST-MLK2 was purified by using glutathione sepharose chromatography and gel filtration chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP ( $\mu$ M) Kmapp / Bin : 2.8 / 3  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.0  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MLK3(MAP3K11)**

Product code 09-017

Human MLK3, catalytic domain [99-398 amino acids of accession number NP\_002410.1] was expressed as N-terminal His-tagged protein (37kDa) using baculovirus expression system. His-tagged MLK3 was purified by using Ni-NTA affinity chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP ( $\mu$ M) Kmapp / Bin : 5 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.5  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MNK1(MKNK1)**

Product code 02-145

Full-length human MNK1 [1-424(end) amino acids and T344D of accession number BAA19885.1] was expressed as N-terminal GST-fusion protein (74 kDa) using baculovirus expression system. GST-MNK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : RS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 460 / 450  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 21  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **MNK2(MKNK2)**

Product code 02-146

Full-length human MNK2 [1-465(end) amino acids and T379D of accession number NP\_951009.1] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-MNK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : RS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 110 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 7.5  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MOS**

Product code 05-118

Full-length, human MOS [1-346(end) amino acids of accession number NP\_005363.1] was expressed as N-terminal GST-fusion protein (65 kDa) using baculovirus expression system. GST-MOS was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : ELISA  
 Substrate : MAP2K1 [inactive mutant]  
 ATP ( $\mu$ M) Kmapp / Bin : 10 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 220  
 IC50 at 1 mM ATP (nM) : n.a.

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**MRCK $\alpha$ (CDC42BPA)**

Product code [01-107](#)

Truncated human MRCK $\alpha$  [1-574 amino acids of accession number NP\_003598.2] was expressed as N-terminal GST-fusion protein (93 kDa) using baculovirus expression system. GST-MRCK $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DAPK1tide  
 ATP ( $\mu$ M) Kmapp / Bin : 0.45 / 1  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.2  
 IC50 at 1 mM ATP (nM) : n.a.

---

**MRCK $\beta$ (CDC42BPB)**

Product code [01-108](#)

Truncated human MRCK $\beta$  [1-473 amino acids of accession number NP\_006026.3] was expressed as N-terminal GST-fusion protein (82 kDa) using baculovirus expression system. GST-MRCK $\beta$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DAPK1tide  
 ATP ( $\mu$ M) Kmapp / Bin : 0.67 / 1  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.6  
 IC50 at 1 mM ATP (nM) : n.a.

---

**MSK1(RPS6KA5)**

Product code [01-147](#)

Full-length human MSK1 [1-802(end) amino acids of accession number NP\_004746.2] was co-expressed as N-terminal GST-fusion protein (117 kDa) with human His-tagged Erk2 [1-360 amino acids of accession number NP\_002736.3] using baculovirus expression system. GST-MSK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Crosstide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.6  
 IC50 at 1 mM ATP (nM) : n.a.

---

**MSK2(RPS6KA4)**

Product code [01-148](#)

Full-length human MSK2 [1-772(end) amino acids of accession number NP\_003933.1] was co-expressed as N-terminal GST-fusion protein (114 kDa) with human His-tagged Erk2 [1-360 amino acids of accession number NP\_002736.3] using baculovirus expression system. GST-MSK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Crosstide  
 ATP ( $\mu$ M) Kmapp / Bin : 40 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 4.3  
 IC50 at 1 mM ATP (nM) : n.a.

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**MSSK1(STK23)**

Product code [04-159](#)

Full-length human MSSK1 [1-567(end) amino acids of accession number NP\_055185.2] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-MSSK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 56 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6200  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MST1(STK4)**

Product code [07-116](#)

Full-length human MST1 [1-487(end) amino acids of accession number NP\_006273.1] was expressed as N-terminal GST-fusion protein (83 kDa) using baculovirus expression system. GST-MST1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 50 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : 0.55

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## **MST2(STK3)**

Product code [07-117](#)

Full-length human MST2 [1-491(end) amino acids of accession number NP\_006272.2] was expressed as N-terminal GST-fusion protein (83 kDa) using baculovirus expression system. GST-MST2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 69 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.7  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MST3(STK24)**

Product code [07-118](#)

Full-length human MST3 [1-431(end) amino acids of accession number NP\_001027467.2] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-MST3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Moesin-derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 66 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.9  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MST4**

Product code [07-119](#)

Full-length human MST4 [1-416(end) amino acids of accession number NP\_057626.2] was expressed as N-terminal GST-fusion protein (74 kDa) using baculovirus expression system. GST-MST4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Moesin-derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 76 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 6.3  
 IC50 at 1 mM ATP (nM) : n.a.

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## **MUSK**

Product code [08-153](#)

Human MUSK, catalytic domain [527-869(end) amino acids of accession number NP\_005583.1] was expressed as N-terminal GST fusion protein (66 kDa) using baculovirus expression system. GST-MUSK was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 14 / 10  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.1  
 IC50 at 1 mM ATP (nM) : 2.6

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## ***NDR1(STK38)***

Product code 01-125

Full-length human NDR1[1-465(end) amino acids of accession number NP\_009202.1] was co-expressed as N-terminal GST-fusion protein (81kDa) with human His-tagged MOBKL1A [1-216(end) amino acids of accession number NP\_775739.1] using baculovirus expression system. GST-NDR1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 12 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.8  
 IC50 at 1 mM ATP (nM) : n.a.

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## ***NDR2(STK38L)***

Product code 01-126

Full-length human NDR2 [1-464(end) amino acids of accession number NP\_055815.1] was co-expressed as N-terminal GST-fusion protein (81 kDa) with human His-tagged MOBKL1A [1-216(end) amino acids of accession number NP\_775739.1] using baculovirus expression system. GST-NDR2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.6 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.1  
 IC50 at 1 mM ATP (nM) : n.a.

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## ***NEK1***

Product code 05-123

Human NEK1, catalytic domain [1-505 amino acids of accession number NP\_036356.1] was expressed as N-terminal GST-fusion protein (85 kDa) using baculovirus expression system. GST-NEK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDK7 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 64 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 51  
 IC50 at 1 mM ATP (nM) : 650

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## ***NEK2***

Product code 05-226

Full-length human NEK2 [1-445(end) amino acids of accession number NP\_002488.1] was expressed as N-terminal His-tagged protein (55 kDa) using baculovirus expression system. His-tagged NEK2 was purified by using Ni-NTA affinity chromatography. Purified His-NEK2 was digested by recombinant His-TEV protease, and His-tag free NEK2 (ca. 52 kDa) was collected as flow-through fraction from Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDK7 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 65 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3700  
 IC50 at 1 mM ATP (nM) : >10000

---

## ***NEK4***

Product code 05-128

Full-length human NEK4 [1-841(end) amino acids of accession number NP\_003148.2] was expressed as N-terminal GST-fusion protein (122 kDa) using baculovirus expression system. GST-NEK4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 51 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 120  
 IC50 at 1 mM ATP (nM) : n.a.



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## **NEK6**

Product code 05-130

Full-length human NEK6 [1-313(end) amino acids of accession number NP\_055212.2] was expressed as N-terminal GST-fusion protein (63 kDa) using baculovirus expression system. GST-NEK6 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDK7 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 69 / 75  
 Metal : Mg  
 Reference compound : PKR Inhibitor  
 IC50 at ATP Bin (nM) : 19000  
 IC50 at 1 mM ATP (nM) : >10000

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## **NEK7**

Product code 05-131

Full-length human NEK7 [1-302(end) amino acids of accession number NP\_598001.1] was expressed as N-terminal GST-fusion protein (62 kDa) using baculovirus expression system. GST-NEK7 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDK7 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 40 / 50  
 Metal : Mg  
 Reference compound : PKR Inhibitor  
 IC50 at ATP Bin (nM) : 8500  
 IC50 at 1 mM ATP (nM) : >10000

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## **NEK9**

Product code 05-133

Truncated human NEK9 [1-346, 733-979(end) amino acids of accession number NP\_149107.4] was expressed as N-terminal GST-fusion protein (93 kDa) using baculovirus expression system. GST-NEK9 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDK7 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 190 / 200  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 150  
 IC50 at 1 mM ATP (nM) : 400

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## **NIM1K(MGC42105)**

Product code 02-175

Full-length human NIM1K [1-436(end) amino acids of accession number NP\_699192.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-NIM1K was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 21 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 300  
 IC50 at 1 mM ATP (nM) : n.a.

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## **NPM1-ALK**

Product code 08-517

Fused gene of human fusion NPM1-ALK [1-680 amino acids of accession number BAA08343.1] was expressed as N-terminal GST-fusion protein (103kDa) using baculovirus expression system. GST-NPM1-ALK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 57 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.4  
 IC50 at 1 mM ATP (nM) : 14

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## **Nuak1**

Product code 02-126

Full-length human Nuak1 [1-661(end) amino acids of accession number NP\_055655.1] was expressed as N-terminal GST-fusion protein (102 kDa) using baculovirus expression system. GST-Nuak1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 59 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : n.a.

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## **Nuak2**

Product code 02-127

Full-length human Nuak2 [1-628(end) amino acids of accession number NP\_112214.1] was expressed as N-terminal GST-fusion protein (98kDa) using baculovirus expression system. GST-Nuak2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 26 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.2  
 IC50 at 1 mM ATP (nM) : n.a.

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## **p38 $\alpha$ (MAPK14)**

Product code 04-152

Truncated human p38 $\alpha$  [9-352 amino acids of accession number NP\_620581.1] was expressed as N-terminal GST-fusion protein (66 kDa) using E. coli expression system. GST-p38 $\alpha$  was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K6. Activated GST-p38 $\alpha$  was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 150 / 150  
 Metal : Mg  
 Reference compound : SB202190  
 IC50 at ATP Bin (nM) : 6.3  
 IC50 at 1 mM ATP (nM) : 22

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## **p38 $\beta$ (MAPK11)**

Product code 04-153

Full-length human p38 $\beta$ [1-364(end) amino acids of accession number NP\_002742.3] was expressed as N-terminal GST-fusion protein (69 kDa) using E. coli expression system. GST-p38 $\beta$  was purified by using glutathione chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 63 / 75  
 Metal : Mg  
 Reference compound : SB202190  
 IC50 at ATP Bin (nM) : 16  
 IC50 at 1 mM ATP (nM) : 110

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## **p38 $\gamma$ (MAPK12)**

Product code 04-155

Full-length human p38 $\gamma$  [1-367(end) amino acids of accession number NP\_002960.2] was expressed as N-terminal GST-fusion protein (69 kDa) using E. coli expression system. GST-p38 $\gamma$  was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K6. Activated GST-p38 $\gamma$  was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 88  
 IC50 at 1 mM ATP (nM) : 2800

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### **p38 $\delta$ (MAPK13)**

Product code [04-154](#)

Full-length human p38 $\delta$  [1-365(end) amino acids of accession number NP\_002745.1] was expressed as N-terminal GST-fusion protein (69 kDa) using E. coli expression system. GST-p38 $\delta$  was purified by using glutathione sepharose chromatography and activated with His-tagged MAP2K6. Activated GST-p38 $\delta$  was purified using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Modified Erktide  
 ATP ( $\mu$ M) Kmapp / Bin : 5.8 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 220  
 IC50 at 1 mM ATP (nM) : >10000

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### **p70S6K(RPS6KB1)**

Product code [01-154](#)

Human p70S6K, catalytic domain [1-421 amino acids and T412E of accession number NP\_003152.1] was expressed as N-terminal GST-fusion protein (75 kDa) using baculovirus expression system. GST-p70S6K was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K2 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 14 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.1  
 IC50 at 1 mM ATP (nM) : 9.8

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### **p70S6K $\beta$ (RPS6KB2)**

Product code [01-155](#)

Full-length human p70S6K $\beta$  [1-482(end) amino acids of accession number NP\_003943.2] was expressed as N-terminal GST-fusion protein (81 kDa) using baculovirus expression system. GST-p70S6K $\beta$  was purified by using glutathione sepharose chromatography

Assay platform : Mobility Shift Assay  
 Substrate : S6K2 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.3 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.7  
 IC50 at 1 mM ATP (nM) : n.a.

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### **PAK1**

Product code [07-123](#)

Full-length human PAK1 [1-545(end) amino acids of accession number NP\_002567.3] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-PAK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : LIMKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 300 / 300  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 4.0  
 IC50 at 1 mM ATP (nM) : n.a.

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### **PAK2**

Product code [07-124](#)

Full-length human PAK2 [1-524(end) amino acids of accession number NP\_002568.2] was expressed as N-terminal GST-fusion protein (85 kDa) using baculovirus expression system. GST-PAK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DAPK1tide  
 ATP ( $\mu$ M) Kmapp / Bin : 81 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 4.5  
 IC50 at 1 mM ATP (nM) : 22

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## **PAK4**

Product code 07-126

Full-length human PAK4 [1-591(end) amino acids of accession number NP\_005875.1] was expressed as N-terminal GST-fusion protein (91 kDa) using baculovirus expression system. GST-PAK4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 2.5 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 12  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PAK5(PAK7)**

Product code 07-127

Human PAK5, catalytic domain [425-719(end) amino acids of accession number NP\_065074.1] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-PAK5 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DAPK1tide  
 ATP ( $\mu$ M) Kmapp / Bin : 1.9 / 1  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.5  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PAK6**

Product code 07-128

Full-length human PAK6 [1-681(end) amino acids of accession number NP\_064553.1] was expressed as N-terminal GST-fusion protein (102 kDa) using baculovirus expression system. GST-PAK6 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.7 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.2  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PASK**

Product code 02-128

Human PASK, catalytic domain [949-1323(end) amino acids of accession number NP\_055963.2] was expressed as N-terminal GST-fusion protein (69 kDa) using baculovirus expression system. GST-PASK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 9.7 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 13  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PBK**

Product code 05-168

Full-length human PBK [1-322(end) amino acids of accession number NP\_060962.2] was expressed as N-terminal GST-fusion protein (63 kDa) using baculovirus expression system. GST-PBK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Histone H3 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 33 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 69  
 IC50 at 1 mM ATP (nM) : 720

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## ***PDGFR $\alpha$* (*PDGFRA*)**

Product code 08-157

Human PDGFR $\alpha$ , cytoplasmic domain [550-1089(end) amino acids of accession number NP\_006197.1] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-PDGFR $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 28 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.30  
 IC50 at 1 mM ATP (nM) : 1.4

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## ***PDGFR $\alpha$* (*PDGFRA*) [*D842V*]**

Product code 08-506

Human PDGFR $\alpha$ , cytoplasmic domain [550-1089(end) amino acids and D842V of accession number NP\_006197.1] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-PDGFR $\alpha$ [D842V] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 21 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.25  
 IC50 at 1 mM ATP (nM) : 1.9

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## ***PDGFR $\alpha$* (*PDGFRA*) [*T674I*]**

Product code 08-503

Human PDGFR $\alpha$ , cytoplasmic domain [550-1089(end) amino acids and T674I of accession number NP\_006197.1] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-PDGFR $\alpha$ [T674I] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.12  
 IC50 at 1 mM ATP (nM) : 1.1

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## ***PDGFR $\alpha$* (*PDGFRA*) [*V561D*]**

Product code 08-507

Human PDGFR $\alpha$ , cytoplasmic domain [550-1089(end) amino acids and V561D of accession number NP\_006197.1] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-PDGFR $\alpha$ [V561D] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 35 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.32  
 IC50 at 1 mM ATP (nM) : 1.6

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## ***PDGFR $\beta$* (*PDGFRB*)**

Product code 08-158

Human PDGFR $\beta$ , cytoplasmic domain [557-1106(end) amino acids of accession number NP\_002600.1] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-PDGFR $\beta$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 23 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.27  
 IC50 at 1 mM ATP (nM) : 0.62

---

## ***PDHK2(PDK2)***

Product code 10-140

Full-length human PDHK2 [1-407(end) amino acids of accession number NP\_002602.2] was expressed as N-terminal GST-fusion protein (74 kDa) using baculovirus expression system. GST-PDHK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PDHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 28 / 25  
 Metal : Mg  
 Reference compound : DCA  
 IC50 at ATP Bin (nM) : 610000  
 IC50 at 1 mM ATP (nM) : n.a.

---

## ***PDHK4(PDK4)***

Product code 10-125

Full-length human PDHK4 [1-411(end) amino acids of accession number NP\_002603.1] was expressed as N-terminal GST-fusion protein (73 kDa) using E.coli expression system. GST-PDHK4 was purified by using glutathione affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PDHKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 19 / 25  
 Metal : Mg  
 Reference compound : DCA  
 IC50 at ATP Bin (nM) : 75000  
 IC50 at 1 mM ATP (nM) : n.a.

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## ***PDK1(PDPK1)***

Product code 01-132

Full-length human PDK1 [1-556(end) amino acids of accession number NP\_002604.1] was expressed as N-terminal GST-fusion protein (91 kDa) using baculovirus expression system. GST-PDK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : T308tide  
 ATP ( $\mu$ M) Kmapp / Bin : 9.6 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 9.2  
 IC50 at 1 mM ATP (nM) : 12

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## ***PEK(EIF2AK3)***

Product code 05-155

Human PEK, cytoplasmic domain [536-1116(end) amino acids of accession number NP\_004827.3] was expressed as N-terminal GST-fusion protein (94 kDa) using E.coli expression system. GST-PEK was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : IMAP  
 Substrate : SRPKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3600  
 IC50 at 1 mM ATP (nM) : n.a.

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## ***PGK(PRKG1)***

Product code 01-142

Full-length human PGK [1-686(end) amino acids of accession number NP\_006249.1] was expressed as N-terminal GST-fusion protein (105 kDa) using baculovirus expression system. GST-PGK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 8.2 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.1  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PHKG1**

Product code 02-152

Full-length human PHKG1 [1-387(end) amino acids of accession number NP\_006204.1] was expressed as N-terminal GST-fusion protein (72 kDa) using baculovirus expression system. GST-PHKG1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 71 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.22  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **PHKG2**

Product code 02-153

Full-length human PHKG2 [1-406(end) amino acids of accession number NP\_000285.1] was expressed as N-terminal GST-fusion protein (74 kDa) using baculovirus expression system. GST-PHKG2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 8.1 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.74  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **PIK3CA/PIK3R1**

Product code 11-401-20N

Full-length human PIK3CA[1-1068(end) amino acids of accession number NP\_006209.2] was co-expressed as N-terminal DYKDDDDK tagged, biotinylated protein (128 kDa) with PIK3R1[1-724(end) amino acids of accession number NP\_852664.1] using baculovirus expression system. The protein was purified by using DYKDDDDK tag antibody agarose.

Assay platform : ADP-Glo  
 Substrate : PI(4,5)P2  
 ATP ( $\mu$ M) Kmapp / Bin : 89 / 100  
 Metal : Mg  
 Reference compound : PI-103  
 IC50 at ATP Bin (nM) : 22  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PIKFYVE(PIP5K3)**

Product code 11-118

Full-length human PIKFYVE [1-2098(end) amino acids and S696N, L932S, Q995L, T998S, S1033A and Q1183K of accession number NP\_055855.2] was expressed as N-terminal GST-fusion protein (265 kDa) using baculovirus expression system. GST-PIKFYVE was purified by using glutathione sepharose chromatography.

Assay platform : ADP-Glo  
 Substrate : PI(3)P  
 ATP ( $\mu$ M) Kmapp / Bin : 36 / 50  
 Metal : Mg  
 Reference compound : AG-183  
 IC50 at ATP Bin (nM) : 3900  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **PIM1**

Product code 02-054

Full-length human PIM1 [1-313(end) amino acids of accession number NP\_002639.1] was expressed as N-terminal His-tagged protein (39 kDa) using baculovirus expression system. His-tagged PIM1 was purified by using Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K2 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 640 / 500  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 10  
 IC50 at 1 mM ATP (nM) : 20

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## **PIP2**

Product code 02-155

Full-length human PIM2 [1-311(end) amino acids of accession number NP\_006866.2] was expressed as N-terminal GST-fusion protein (61 kDa) using baculovirus expression system. GST-PIM2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K2 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 4 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 14  
 IC50 at 1 mM ATP (nM) : 480

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## **PIP3**

Product code 02-156

Full-length human PIM3 [1-326(end) amino acids of accession number NP\_001001852.1] was expressed as N-terminal GST-fusion protein (63 kDa) using baculovirus expression system. GST-PIM3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K2 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 130 / 150  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.36  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **PIP4K2A**

Product code 11-115

Full-length human PIP4K2A [1-406(end) amino acids of accession number NP\_005019] was expressed as N-terminal GST-fusion protein (73 kDa) using baculovirus expression system. GST-PIP4K2A was purified by using glutathione sepharose chromatography.

Assay platform : ADP-Glo  
 Substrate : PI(5)P  
 ATP ( $\mu$ M) Kmapp / Bin : 20 / 25  
 Metal : Mg  
 Reference compound : AG-183  
 IC50 at ATP Bin (nM) : 7600  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PIP4K2B**

Product code 11-116

Full-length human PIP4K2B [1-416(end) amino acids of accession number NP\_003550] was expressed as N-terminal GST-fusion protein (74 kDa) using baculovirus expression system. GST-PIP4K2B was purified by using glutathione sepharose chromatography.

Assay platform : ADP-Glo  
 Substrate : PI(5)P  
 ATP ( $\mu$ M) Kmapp / Bin : 18 / 25  
 Metal : Mn  
 Reference compound : AG-183  
 IC50 at ATP Bin (nM) : 48000  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **PIP5K1A**

Product code 11-111

Full-length human PIP5K1A [1-549(end) amino acids of accession number NP\_003548.1] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-PIP5K1A was purified by using glutathione sepharose chromatography.

Assay platform : ADP-Glo  
 Substrate : PI(4)P  
 ATP ( $\mu$ M) Kmapp / Bin : 20 / 25  
 Metal : Mg  
 Reference compound : AG-183  
 IC50 at ATP Bin (nM) : 10000  
 IC50 at 1 mM ATP (nM) : n.a.



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## **PIP5K1B**

Product code [11-112](#)

Full-length human PIP5K1B [1-540(end) amino acids of accession number NP\_003549.1] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-PIP5K1B was purified by using glutathione sepharose chromatography.

Assay platform : ADP-Glo  
 Substrate : PI(4)P  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 136 / 100  
 Metal : Mg  
 Reference compound : AG-183  
 IC50 at ATP Bin (nM) : 4300  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PIP5K1C**

Product code [11-113](#)

Full-length human PIP5K1C [1-668(end) amino acids of accession number NP\_036530] was expressed as N-terminal GST-fusion protein (101 kDa) using baculovirus expression system. GST-PIP5K1C was purified by using glutathione sepharose chromatography.

Assay platform : ADP-Glo  
 Substrate : PI(4)P  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 33 / 50  
 Metal : Mg  
 Reference compound : AG-183  
 IC50 at ATP Bin (nM) : 1900  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PIP5KL1**

Product code [11-114](#)

Full-length human PIP5KL1 [1-394(end) amino acids of accession number NP\_001128691.1] was expressed as N-terminal GST-fusion protein (72 kDa) using baculovirus expression system. GST-PIP5KL1 was purified by using glutathione sepharose chromatography.

Assay platform : ADP-Glo  
 Substrate : PI(4)P  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 1 / 1  
 Metal : Mg  
 Reference compound : AG-183  
 IC50 at ATP Bin (nM) : 2200  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PKAC $\alpha$ (PRKACA)**

Product code [01-127](#)

Full-length human PKAC $\alpha$  [1-351(end) amino acids of accession number NP\_002721.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-PKAC $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 2.6 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.80  
 IC50 at 1 mM ATP (nM) : 86

---

## **PKAC $\beta$ (PRKACB)**

Product code [01-128](#)

Full-length human PKAC $\beta$  [1-351(end) amino acids of accession number NP\_002722.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-PKAC $\beta$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M)  $K_{mapp}$  / Bin : 4.7 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : n.a.

---

**PKAC $\gamma$ (PRKACG)**

Product code [01-129](#)

Full-length human PKAC $\gamma$  [1-351(end) amino acids of accession number NP\_002723.2] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-PKAC $\gamma$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 4.5 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 3.1  
 IC50 at 1 mM ATP (nM) : n.a.

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**PKC $\alpha$ (PRKCA)**

Product code [01-133](#)

Full-length human PKC $\alpha$  [1-672(end) amino acids of accession number NP\_002728.1] was expressed as N-terminal GST-fusion protein (104 kDa) using baculovirus expression system. GST-PKC $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 36 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.33  
 IC50 at 1 mM ATP (nM) : 3.6

---

**PKC $\beta$  1(PRKCB1)**

Product code [01-134](#)

Full-length human PKC $\beta$ 1 [1-671(end) amino acids of accession number NP\_997700.1] was expressed as N-terminal GST-fusion protein (104 kDa) using baculovirus expression system. GST-PKC $\beta$ 1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 79 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.71  
 IC50 at 1 mM ATP (nM) : n.a.

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**PKC $\beta$  2(PRKCB2)**

Product code [01-165](#)

Full-length human PKC $\beta$ 2 [1-673(end) amino acids of accession number NP\_002729.2] was expressed as N-terminal GST-fusion protein (104 kDa) using baculovirus expression system. GST-PKC $\beta$ 2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 41 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.43  
 IC50 at 1 mM ATP (nM) : n.a.

---

**PKC $\gamma$ (PRKCG)**

Product code [01-137](#)

Full-length human PKC $\gamma$  [1-697(end) amino acids of accession number NP\_002730.1] was expressed as N-terminal GST-fusion protein (106 kDa) using baculovirus expression system. GST-PKC $\gamma$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 74 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.1  
 IC50 at 1 mM ATP (nM) : n.a.

---

## ***PKCδ (PRKCD)***

Product code 01-135

Full-length human PKCδ [1-676(end) amino acids of accession number NP\_006245.2] was expressed as N-terminal GST-fusion protein (105 kDa) using baculovirus expression system. GST-PKCδ was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP (μM) Kmapp / Bin : 26 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.22  
 IC50 at 1 mM ATP (nM) : n.a.

---

## ***PKCε (PRKCE)***

Product code 01-136

Full-length human PKCε [1-737(end) amino acids of accession number NP\_005391.1] was expressed as N-terminal GST-fusion protein (111 kDa) using baculovirus expression system. GST-PKCε was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP (μM) Kmapp / Bin : 16 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.56  
 IC50 at 1 mM ATP (nM) : 5.6

---

## ***PKCζ (PRKCZ)***

Product code 01-141

Full-length human PKCζ [1-592(end) amino acids of accession number NP\_002735.3] was expressed as N-terminal GST-fusion protein (94kDa) using baculovirus expression system. GST-PKCζ was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP (μM) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 55  
 IC50 at 1 mM ATP (nM) : n.a.

---

## ***PKCη (PRKCH)***

Product code 01-138

Full-length human PKCη [1-683(end) amino acids of accession number NP\_006246.2] was expressed as N-terminal GST-fusion protein (105 kDa) using baculovirus expression system. GST-PKCη was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP (μM) Kmapp / Bin : 36 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.92  
 IC50 at 1 mM ATP (nM) : n.a.

---

## ***PKCθ (PRKCQ)***

Product code 01-140

Full-length human PKCθ [1-706(end) amino acids of accession number NP\_006248.1] was expressed as N-terminal GST-fusion protein (109 kDa) using baculovirus expression system. GST-PKCθ was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP (μM) Kmapp / Bin : 18 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.72  
 IC50 at 1 mM ATP (nM) : n.a.

---

**PKC $\alpha$ (PRKCI)**

Product code 01-139

Full-length human PKC $\alpha$ [1-587(end) amino acids of accession number NP\_002731.3] was expressed as N-terminal GST-fusion protein (94 kDa) using baculovirus expression system. GST-PKC $\alpha$  was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : PKC peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 13  
 IC50 at 1 mM ATP (nM) : n.a.

---

**PKD1(PRKD1)**

Product code 02-157

Full-length human PKD1 [1-912(end) amino acids of accession number NP\_002733.1] was expressed as N-terminal GST-fusion protein (129 kDa) using baculovirus expression system. GST-PKD1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 25 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.1  
 IC50 at 1 mM ATP (nM) : n.a.

---

**PKD2(PRKD2)**

Product code 02-158

Full-length human PKD2 [1-878(end) amino acids of accession number NP\_057541.2] was expressed as N-terminal GST-fusion protein (124 kDa) using baculovirus expression system. GST-PKD2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 26 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.1  
 IC50 at 1 mM ATP (nM) : 16

---

**PKD3(PRKD3)**

Product code 02-159

Full-length human PKD3 [1-890(end) amino acids of accession number NP\_005804.1] was expressed as N-terminal GST-fusion protein (127 kDa) using baculovirus expression system. GST-PKD3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 34 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.80  
 IC50 at 1 mM ATP (nM) : n.a.

---

**PKN1**

Product code 01-144

Full-length human PKN1 [1-942(end) amino acids of accession number NP\_002732.3] was expressed as N-terminal GST-fusion protein (132 kDa) using baculovirus expression system. GST-PKN1 was purified by using glutathione sepharose chromatography.

Assay platform : IMAP  
 Substrate : S6K peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 19 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.15  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **PKR(EIF2AK2)**

Product code 05-156

Human PKR, catalytic domain [252-551(end) amino acids of accession number NP\_002750.1] was expressed as N-terminal GST-fusion protein (62 kDa) using baculovirus expression system. GST-PKR was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : IMAP  
 Substrate : SRPKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 87  
 IC50 at 1 mM ATP (nM) : n.a.

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## **PLK1**

Product code 05-157

Full-length human PLK1 [1-603(end) amino acids of accession number NP\_005021.2] was expressed as N-terminal GST-fusion protein (95 kDa) using baculovirus expression system. GST-PLK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDC25ctide  
 ATP ( $\mu$ M) Kmapp / Bin : 5.6 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 200  
 IC50 at 1 mM ATP (nM) : 5000

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## **PLK2**

Product code 05-158

Full-length human PLK2 [1-685(end) amino acids of accession number NP\_006613.2] was expressed as N-terminal GST-fusion protein (105 kDa) using baculovirus expression system. GST-PLK2 was purified by using glutathione sepharose chromatography.

Assay platform : IMAP  
 Substrate : CHK2 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 30 / 30  
 Metal : Mg  
 Reference compound : K252b  
 IC50 at ATP Bin (nM) : 530  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **PLK3**

Product code 05-159

Human PLK3, catalytic domain [58-340 amino acids of accession number NP\_004064.2] was expressed as N-terminal GST-fusion protein (59 kDa) using baculovirus expression system. GST-PLK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CDC25ctide  
 ATP ( $\mu$ M) Kmapp / Bin : 6.8 / 5  
 Metal : Mg  
 Reference compound : K252b  
 IC50 at ATP Bin (nM) : 1600  
 IC50 at 1 mM ATP (nM) : >10000

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## **PRKX**

Product code 01-130

Full-length human PRKX [1-358(end) amino acids of accession number NP\_005035.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-PRKX was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Kemptide  
 ATP ( $\mu$ M) Kmapp / Bin : 20 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.59  
 IC50 at 1 mM ATP (nM) : n.a.

---

**PYK2(PTK2B)**

Product code 08-138

Full-length human PYK2 [1-967(end) amino acids of accession number NP\_775267.1] was expressed as N-terminal GST-fusion protein (138 kDa) using baculovirus expression system. GST-PYK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 56 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.2  
 IC50 at 1 mM ATP (nM) : 4.9

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**QIK(SNF1LK2)**

Product code 02-129

Full-length human QIK(SNF1LK2) [1-926(end) amino acids of accession number NP\_056006.1] was expressed as N-terminal GST-fusion protein (132 kDa) using baculovirus expression system. GST-QIK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : AMARA peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 42 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.4  
 IC50 at 1 mM ATP (nM) : 2.9

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**RAF1**

Product code 09-125

Human RAF1, catalytic domain [306-648(end) amino acids and Y340D and Y341D of accession number NP\_002871.1] was expressed as N-terminal GST-fusion protein (66 kDa) using baculovirus expression system. GST-RAF1 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : MAP2K1  
 ATP ( $\mu$ M) Kmapp / Bin : 0.39 / 0.5  
 Metal : Mg  
 Reference compound : ZM336372  
 IC50 at ATP Bin (nM) : 81  
 IC50 at 1 mM ATP (nM) : n.a.

---

**RET**

Product code 08-159

Human RET, cytoplasmic domain [658-1114(end) amino acids of accession number NP\_066124.1] was expressed as N-terminal GST-fusion protein(79 kDa) using baculovirus expression system. GST-RET was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.5 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.3  
 IC50 at 1 mM ATP (nM) : 20

---

**RET [G691S]**

Product code 08-522

Human RET, cytoplasmic domain [658-1114(end) amino acids and G691S of accession number NP\_066124.1] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-RET[G691S] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.1  
 IC50 at 1 mM ATP (nM) : 24

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## **RET [M918T]**

Product code 08-508

Human RET, cytoplasmic domain [658-1114(end) amino acids and M918T of accession number NP\_066124.1] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-RET[M918T] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 4.2 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.4  
 IC50 at 1 mM ATP (nM) : 81

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## **RET [S891A]**

Product code 08-523

Human RET, cytoplasmic domain [658-1114(end) amino acids and S891A of accession number NP\_066124.1] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-RET[S891A] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.44  
 IC50 at 1 mM ATP (nM) : 9.6

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## **RET [Y791F]**

Product code 08-521

Human RET, cytoplasmic domain [658-1114(end) amino acids and Y791F of accession number NP\_066124.1] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-RET[Y791F] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 29 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.5  
 IC50 at 1 mM ATP (nM) : 26

---

## **ROCK1**

Product code 01-109

Human ROCK1, catalytic domain [1-477 amino acids of accession number NP\_005397.1] was expressed as N-terminal GST-fusion protein (82 kDa) using baculovirus expression system. GST-ROCK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : LIMKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.1 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.6  
 IC50 at 1 mM ATP (nM) : 73

---

## **ROCK2**

Product code 01-110

Human ROCK2, catalytic domain [1-553 amino acids of accession number NP\_004841.2] was expressed as N-terminal GST-fusion protein (91 kDa) using baculovirus expression system. GST-ROCK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : LIMKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.4 / 5  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.92  
 IC50 at 1 mM ATP (nM) : n.a.

---

**RON(MST1R)**

Product code 08-152

Human RON, cytoplasmic domain [979-1400(end) amino acids of accession number NP\_002438.1] was expressed as N-terminal GST-fusion protein (75kDa) using baculovirus expression system. GST-RON was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 27 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 37  
 IC50 at 1 mM ATP (nM) : 550

---

**ROS(ROS1)**

Product code 08-163

Human ROS, cytoplasmic domain [1883-2347(end) amino acids of accession number NP\_002935.2] was expressed as N-terminal GST-fusion protein (79 kDa) using baculovirus expression system. GST-ROS was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : IRS1  
 ATP ( $\mu$ M) Kmapp / Bin : 37 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.4  
 IC50 at 1 mM ATP (nM) : 1.0

---

**RSK1(RPS6KA1)**

Product code 01-149

Full-length human RSK1 [1-735(end) amino acids of accession number NP\_002944.2] was expressed as N-terminal GST-fusion protein (110 kDa) using baculovirus expression system. GST-RSK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K peptide(N-FL)  
 ATP ( $\mu$ M) Kmapp / Bin : 21 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.14  
 IC50 at 1 mM ATP (nM) : 2.5

---

**RSK2(RPS6KA3)**

Product code 01-150

Full-length human RSK2 [1-740(end) amino acids of accession number NP\_004577.1] was expressed as N-terminal GST-fusion protein (111 kDa) using baculovirus expression system. GST-RSK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K peptide(N-FL)  
 ATP ( $\mu$ M) Kmapp / Bin : 14 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.10  
 IC50 at 1 mM ATP (nM) : n.a.

---

**RSK3(RPS6KA2)**

Product code 01-151

Full-length human RSK3 [1-733(end) amino acids of accession number NP\_066958.2] was expressed as N-terminal GST-fusion protein (111 kDa) using baculovirus expression system. GST-RSK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K peptide(N-FL)  
 ATP ( $\mu$ M) Kmapp / Bin : 9.9 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.11  
 IC50 at 1 mM ATP (nM) : 1.7

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## **RSK4(RPS6KA6)**

Product code 01-152

Full-length human RSK4 [1-745(end) amino acids of accession number NP\_055311.1] was expressed as N-terminal GST-fusion protein (111 kDa) using baculovirus expression system. GST-RSK4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : S6K peptide(N-FL)  
 ATP ( $\mu$ M) Kmapp / Bin : 20 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.051  
 IC50 at 1 mM ATP (nM) : 0.55

---

## **SGK**

Product code 01-158

Truncated human SGK [61-431(end) amino acids and S422D of accession number NP\_005618.2] was co-expressed as N-terminal GST-fusion protein (68 kDa) with His-tagged PDK1 [1-556(end) amino acids of accession number NP\_002604.1] using baculovirus expression system. GST-SGK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 52 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 10  
 IC50 at 1 mM ATP (nM) : 99

---

## **SGK2**

Product code 01-159

Full-length human SGK2 [1-367(end) amino acids and S356D of accession number NP\_733794.1] was co-expressed as N-terminal GST-fusion protein (68 kDa) with His-tagged PDK1 [1-556(end) amino acids of accession number NP\_002604.1] using baculovirus expression system. GST-SGK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 58 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 30  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **SGK3(SGKL)**

Product code 01-160

Truncated human SGK3 [119-496(end) amino acids and S486D of accession number NP\_037389.4] was co-expressed as N-terminal GST-fusion protein (68 kDa) with His-tagged PDK1 [1-556(end) amino acids of accession number NP\_002604.1] using baculovirus expression system. GST-SGK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SGKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 17 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 42  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **SIK(SNF1LK)**

Product code 02-131

Full-length human SIK [1-783(end) amino acids of accession number NP\_775490.2] was expressed as N-terminal GST-fusion protein (112 kDa) using baculovirus expression system. GST-SIK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : AMARA peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 47 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.8  
 IC50 at 1 mM ATP (nM) : 1.0

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## **skMLCK(MYLK2)**

Product code 02-150

Full-length human skMLCK [1-596(end) amino acids of accession number NP\_149109.1] was expressed as N-terminal GST-fusion protein (93 kDa) using baculovirus expression system. GST-skMLCK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MLCtide  
 ATP ( $\mu$ M) Kmapp / Bin : 820 / 1000  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 51  
 IC50 at 1 mM ATP (nM) : 51

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## **SLK**

Product code 07-129

Full-length human SLK [1-1152(end) amino acids and S5N of accession number NP\_055535.1] was expressed as N-terminal GST-fusion protein (160 kDa) using baculovirus expression system. GST-SLK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Moesin-derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 36 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.32  
 IC50 at 1 mM ATP (nM) : n.a.

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## **SPHK1**

Product code 11-105

Full-length human SPHK1 [1-384(end) amino acids of accession number NP\_001136074.1] was expressed as N-terminal GST-fusion protein (69 kDa) using baculovirus expression system. GST-SPHK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Sphingosine  
 ATP ( $\mu$ M) Kmapp / Bin : 20 / 25  
 Metal : Mg  
 Reference compound : PF-543  
 IC50 at ATP Bin (nM) : 3.9  
 IC50 at 1 mM ATP (nM) : n.a.

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## **SPHK2**

Product code 11-106

Full-length human SPHK2 [1-618(end) amino acids of accession number NP\_001191089.1] was expressed as N-terminal GST-fusion protein (92 kDa) using baculovirus expression system. GST-SPHK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Sphingosine  
 ATP ( $\mu$ M) Kmapp / Bin : 620 / 600  
 Metal : Mg  
 Reference compound : PF-543  
 IC50 at ATP Bin (nM) : 400  
 IC50 at 1 mM ATP (nM) : n.a.

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## **SRC**

Product code 08-173

Full-length human SRC [1-536(end) amino acids of accession number NP\_005408.1] was expressed as N-terminal GST-fusion protein (87 kDa) using baculovirus expression system. GST-SRC was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 31 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 5.3  
 IC50 at 1 mM ATP (nM) : 33

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## **SRM(SRMS)**

Product code 08-174

Human SRM, catalytic domain [215-488(end) amino acids of accession number NP\_543013.1] was expressed as N-terminal GST-fusion protein (58kDa) using baculovirus expression system. GST-SRM was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 38 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 290  
 IC50 at 1 mM ATP (nM) : 5000

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## **SRPK1**

Product code 04-160

Full-length human SRPK1 [1-655(end) amino acids and V564 deletion of accession number NP\_003128.3] was expressed as N-terminal GST-fusion protein (101 kDa) using E. coli expression system. GST-SRPK1 was purified by using glutathione sepharose chromatography.

Assay platform : IMAP  
 Substrate : SRPKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 200 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 85  
 IC50 at 1 mM ATP (nM) : n.a.

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## **SRPK2**

Product code 04-161

Full-length human SRPK2 [1-688(end) amino acids of accession number NP\_872633.1] was expressed as N-terminal GST-fusion protein (104 kDa) using baculovirus expression system. GST-SRPK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : DYRKtide-F  
 ATP ( $\mu$ M) Kmapp / Bin : 14 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 600  
 IC50 at 1 mM ATP (nM) : n.a.

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## **SYK**

Product code 08-176

Full-length human SYK [1-635(end) amino acids of accession number NP\_003168.2] was expressed as N-terminal GST-fusion protein (99 kDa) using baculovirus expression system. GST-SYK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 59 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.29  
 IC50 at 1 mM ATP (nM) : 0.63

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## **TAK1-TAB1(MAP3K7)**

Product code 09-019

Fused gene of human TAK1 [1-303 amino acids of accession number NP\_663304.1] and human TAB1 [437-504 amino acids of accession number NP\_006107.1] was expressed as N-terminal His-tagged protein (45kDa) using baculovirus expression system. His-tagged TAK1-TAB1 was purified by using Ni-NTA affinity chromatography.

Assay platform : ELISA  
 Substrate : MAP2K7  
 ATP ( $\mu$ M) Kmapp / Bin : 10 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 50  
 IC50 at 1 mM ATP (nM) : n.a.

---

## **TAOK2**

Product code 07-133

Human TAOK2, catalytic domain [1-319 amino acid of accession number NP\_004774.1] was expressed as N-terminal GST-fusion protein (63 kDa) using baculovirus expression system. GST-TAOK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : TAOKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 39 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 24  
 IC50 at 1 mM ATP (nM) : n.a.

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## **TBK1**

Product code 05-115

Full-length human TBK1 [1-729(end) amino acids of accession number NP\_037386.1] was expressed as N-terminal GST-fusion protein (111 kDa) using baculovirus expression system. GST-TBK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 21 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.2  
 IC50 at 1 mM ATP (nM) : n.a.

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## **TEC**

Product code 08-182

Human TEC, catalytic domain [359-631 amino acids of accession number AA101712.1] was expressed as N-terminal GST-fusion protein (59 kDa) using baculovirus expression system. GST-TEC was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 55 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 20  
 IC50 at 1 mM ATP (nM) : 220

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## **TIE2(TEK)**

Product code 08-185

Human TIE2, cytoplasmic domain [771-1124(end) amino acids of accession number NP\_000450.1] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-TIE2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 94 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 100  
 IC50 at 1 mM ATP (nM) : 190

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## **TNIK**

Product code 07-138

Human TNIK, catalytic domain [1-314 amino acids of accession number NP\_055843.1] was expressed as N-terminal GST-fusion protein (62 kDa) using baculovirus expression system. GST-TNIK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Moesin-derived peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 16 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : 11

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## **TNK1**

Product code 08-104

Human TNK1, catalytic domain [106-390 amino acids of accession number Q13470-2] was expressed as N-terminal GST-fusion protein (58 kDa) using baculovirus expression system. GST-TNK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 71 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.55  
 IC50 at 1 mM ATP (nM) : 1.7

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## **TRKA(NTRK1)**

Product code 08-186

Human TRKA, cytoplasmic domain [436-790(end) amino acids of accession number NP\_001012331.1] was expressed as N-terminal GST-fusion protein (67 kDa) using baculovirus expression system. GST-TRKA was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 65 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.34  
 IC50 at 1 mM ATP (nM) : 0.64

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## **TRKB(NTRK2)**

Product code 08-187

Human TRKB, cytoplasmic domain [456-822(end) amino acids of accession number NP\_001018074.1] was expressed as N-terminal GST-fusion protein (69 kDa) using baculovirus expression system. GST-TRKB was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srectide  
 ATP ( $\mu$ M) Kmapp / Bin : 80 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.29  
 IC50 at 1 mM ATP (nM) : 0.55

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## **TRKC(NTRK3)**

Product code 08-197

Human TRKC, catalytic domain [456-825(end) amino acids of accession number NP\_002521.2] was expressed as N-terminal GST-fusion protein (69 kDa) using baculovirus expression system. GST-TRKC was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srectide  
 ATP ( $\mu$ M) Kmapp / Bin : 47 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.32  
 IC50 at 1 mM ATP (nM) : 1.0

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## **TSSK1**

Product code 02-364

Full-length human TSSK1 [1-367(end) amino acids of accession number NP\_114417.1] was expressed as N-terminal GST-fusion protein using baculovirus expression system. GST-TSSK1 was purified by using glutathione sepharose chromatography. GST-TSSK1 was cleaved by PreScission protease and GST-free TSSK1 (42 kDa) was collected as flow-through fraction from glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 11 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.19  
 IC50 at 1 mM ATP (nM) : 0.95

---

## **TSSK2**

Product code 02-165

Full-length human TSSK2 [1-358(end) amino acids of accession number NP\_443732.3] was expressed as N-terminal GST-fusion protein (68 kDa) using baculovirus expression system. GST-TSSK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 8.8 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 4.7  
 IC50 at 1 mM ATP (nM) : n.a.

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## **TSSK3**

Product code 02-166

Full-length human TSSK3 [2-268(end) amino acids of accession number NP\_443073.1] was expressed as N-terminal GST-fusion protein (57 kDa) using baculovirus expression system. GST-TSSK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : GS peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 45 / 50  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 12  
 IC50 at 1 mM ATP (nM) : n.a.

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## **TTK**

Product code 05-169

Full-length human TTK [1-857(end) amino acids of accession number NP\_003309.2] was expressed as N-terminal GST-fusion protein (124 kDa) using baculovirus expression system. GST-TTK was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : Lyn substrate peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 0.16 / 0.2  
 Metal : Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 380  
 IC50 at 1 mM ATP (nM) : n.a.

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## **TXK**

Product code 08-183

Human TXK, catalytic domain [260-527(end) amino acids of accession number NP\_003319.1] was expressed as N-terminal GST-fusion protein (58 kDa) using baculovirus expression system. GST-TXK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 110 / 100  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 45  
 IC50 at 1 mM ATP (nM) : 220

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## **TYK2**

Product code 08-147

Human TYK2, catalytic domain [871-1187(end) amino acids of accession number NP\_003322.3] was expressed as N-terminal GST-fusion protein (63 kDa) using baculovirus expression system. GST-TYK2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Srctide  
 ATP ( $\mu$ M) Kmapp / Bin : 18 / 25  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.0  
 IC50 at 1 mM ATP (nM) : 7.0

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## **TYRO3**

Product code 08-109

Human TYRO3, cytoplasmic domain of [453-890(end) amino acids of accession number NP\_006284.2] was expressed as N-terminal GST fusion protein (76 kDa) using baculovirus expression system. GST-TYRO3 was purified by using glutathione sepharose chromatography

Assay platform : Mobility Shift Assay  
 Substrate : CSKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 80 / 75  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.3  
 IC50 at 1 mM ATP (nM) : 2.9

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## **WEE1**

Product code 05-177

Human WEE1, catalytic domain [215-646(end) amino acids of accession number NP\_003381.1] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-WEE1 was purified by using glutathione sepharose chromatography.

Assay platform : ELISA  
 Substrate : CDC2 peptide  
 ATP ( $\mu$ M) Kmapp / Bin : 7.7 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1900  
 IC50 at 1 mM ATP (nM) : n.a.

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## **WNK1**

Product code 05-179

Human WNK1, catalytic domain [1-491 amino acids of accession number NP\_061852.1] was expressed as N-terminal GST-fusion protein (81 kDa) using baculovirus expression system. GST-WNK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SPAKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 140 / 150  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : >10000  
 IC50 at 1 mM ATP (nM) : n.a.

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## **WNK2**

Product code 05-180

Human WNK2, catalytic domain [166-489 amino acids of accession number NP\_006639.3] was expressed as N-terminal GST-fusion protein (65 kDa) using baculovirus expression system. GST-WNK2 was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SPAKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 48 / 50  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 8500  
 IC50 at 1 mM ATP (nM) : n.a.

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## **WNK3**

Product code 05-181

Human WNK3, catalytic domain [1-434 amino acids of accession number NP\_065973.2] was expressed as N-terminal GST-fusion protein (76 kDa) using baculovirus expression system. GST-WNK3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : SPAKtide  
 ATP ( $\mu$ M) Kmapp / Bin : 48 / 50  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 8500  
 IC50 at 1 mM ATP (nM) : n.a.

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## **YES(YES1)**

Product code 08-175

Full-length human YES [1-543(end) amino acids of accession number NP\_005424.1] was expressed as N-terminal GST-fusion protein (88 kDa) using baculovirus expression system. GST-YES was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Src tide  
 ATP ( $\mu$ M) Kmapp / Bin : 13 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 2.4  
 IC50 at 1 mM ATP (nM) : 23

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## **YES(YES1) [T348I]**

Product code 08-533

Full-length human YES [1-543(end) amino acids and T348I of accession number NP\_005424.1] was expressed as N-terminal GST-fusion protein (89 kDa) using baculovirus expression system. GST-YES[T348I] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Src tide  
 ATP ( $\mu$ M) Kmapp / Bin : 8.5 / 10  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 1.4  
 IC50 at 1 mM ATP (nM) : 45

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## **ZAP70**

Product code 08-377

Full-length human ZAP70 [1-619(end) amino acids of accession number NP\_001070.2] was expressed as N-terminal GST-fusion protein using baculovirus expression system. GST-ZAP70 was purified by using glutathione sepharose chromatography. GST-ZAP70 was cleaved by PreScission protease and GST-free ZAP70 (71 kDa) was collected as flow-through fraction from glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Blk/Lyntide  
 ATP ( $\mu$ M) Kmapp / Bin : 3.3 / 5  
 Metal : Mg+Mn  
 Reference compound : Staurosporine  
 IC50 at ATP Bin (nM) : 0.76  
 IC50 at 1 mM ATP (nM) : 34



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## **BRAF**

Product code 09-122

Human BRAF, catalytic domain [433-726 amino acid of accession number NP\_004324.2] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-BRAF was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : ZM336372  
 IC50 at 1 mM ATP (nM) : >10000

*\*MAP2K1/Erk2/Modified Erktide*

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## **BRAF [V600E]**

Product code 09-144

Human BRAF, catalytic domain [433-726 amino acids and V600E of accession number NP\_004324.2] was expressed as N-terminal GST-fusion protein (60 kDa) using baculovirus expression system. GST-BRAF[V600E] was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : ZM336372  
 IC50 at 1 mM ATP (nM) : 662

*\*MAP2K1/Erk2/Modified Erktide*

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## **COT(MAP3K8)**

Product code 07-301

Human COT, catalytic domain [30-397 amino acids of accession number NP\_005195.2] was expressed as N-terminal GST-fusion protein using baculovirus expression system. GST-COT was purified by using glutathione sepharose chromatography. GST-COT was cleaved by PreScission protease and GST-free COT (42 kDa) was collected as flow-through fraction from glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 120

*\*MAP2K1/Erk2/Modified Erktide*

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## **DLK(MAP3K12)**

Product code 09-111

Human DLK, catalytic domain [1-520 amino acid of accession number NP\_006292.3] was expressed as N-terminal GST-fusion protein (86 kDa) using baculovirus expression system. GST-DLK was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K4/MAP2K7  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 460

*\*(MAP2K4/MAP2K7)/JNK2/Modified Erktide*

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## **MAP2K1**

Product code 07-141

Full-length human MAP2K1 [1-393(end) amino acids of accession number NP\_002746.1] was co-expressed as N-terminal GST-fusion protein (71 kDa) with human His-tagged RAF1 [306-648(end) amino acids and Y340D and Y341D of accession number NP\_002871.1] using baculovirus expression system. GST-MAP2K1 was purified by using glutathione sepharose chromatography and Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Erk2  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 58

*\*Erk2/Modified Erktide*

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## MAP2K2

Product code 07-142

Full-length human MAP2K2 [1-400(end) amino acids of accession number NP\_109587.1] was co-expressed as N-terminal GST-fusion protein (71 kDa) with human His-tagged RAF1 [306-648(end) amino acids and Y340D and Y341D of accession number NP\_002871.1] using baculovirus expression system. GST-MAP2K2 was purified by using glutathione sepharose chromatography and Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Erk2  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 54

*\*Erk2/Modified Erktide*

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## MAP2K3

Product code 07-143

Full-length human MAP2K3 [1-347(end) amino acids of accession number NP\_659731.1] was co-expressed as N-terminal GST-fusion protein (67 kDa) with human His-tagged MLK3 [99-398 amino acids of accession number NP\_002410.1] using baculovirus expression system. GST-MAP2K3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : p38 $\alpha$   
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 790

*\*p38 $\alpha$ /Modified Erktide*

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## MAP2K4

Product code 07-144

Full-length human MAP2K4 [1-399(end) amino acids of accession number NP\_003001.1] was co-expressed as N-terminal GST-fusion protein (71 kDa) with human His-tagged MAP3K3 [1-626(end) amino acids of accession number NP\_002392.2] using baculovirus expression system. GST-MAP2K4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : JNK2  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 4600

*\*JNK2/Modified Erktide*

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## MAP2K5

Product code 07-145

Full-length human MAP2K5 [1-448(end) amino acids of accession number NP\_660143.1] was co-expressed as N-terminal GST-fusion protein (77 kDa) with human His-tagged MAP3K3 [1-626(end) amino acids of accession number NP\_002392.2], CDC37 and HSP90 using baculovirus expression system. GST-MAP2K5 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : Erk5  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 62

*\*Erk5/EGFR-Derived peptide*

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## MAP2K6

Product code 07-146

Full-length human MAP2K6 [1-334(end) amino acids of accession number NP\_002749.2] was co-expressed as N-terminal GST-fusion protein (64 kDa) with human His-tagged MLK3 [99-398 amino acids of accession number NP\_002410.1] using baculovirus expression system. GST-MAP2K6 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : p38 $\alpha$   
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 140

*\*p38 $\alpha$ /Modified Erktide*

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## MAP2K7

Product code 07-148

Full-length human MAP2K7 [1-419(end) amino acids of accession number NP\_660186.1] was co-expressed as N-terminal GST-fusion protein (75 kDa) with human His-tagged MAP3K3 [1-626(end) amino acids of accession number NP\_002392.2] using baculovirus expression system. GST-MAP2K7 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : JNK2  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 1100

*\*JNK2/Modified Erktide*

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## MAP3K1

Product code 07-103

Human MAP3K1, catalytic domain [1327-1646(end) amino acids of accession number XP\_042066.8] was expressed as N-terminal GST-fusion protein (62 kDa) using baculovirus expression system. GST-MAP3K1 was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 160

*\*MAP2K1/Erk2/Modified Erktide*

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## MAP3K2

Product code 07-104

Human MAP3K2, catalytic domain [337-620(end) amino acids of accession number NP\_006600.3] was expressed as N-terminal GST-fusion protein (59 kDa) using baculovirus expression system. GST-MAP3K2 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K4/MAP2K7  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 45

*\*(MAP2K4/MAP2K7)/JNK2/Modified Erktide*

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## MAP3K3

Product code 07-105

Full-length human MAP3K3 [1-626(end) amino acids of accession number NP\_002392.2] was expressed as N-terminal GST-fusion protein (98 kDa) using baculovirus expression system. GST-fusion MAP3K3 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K6  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 72

*\*MAP2K6/p38 $\alpha$ /Modified Erktide*

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## MAP3K4

Product code 07-106

Human MAP3K4, catalytic domain [1312-1608(end) amino acids of accession number NP\_005913.2] was expressed as N-terminal GST-fusion protein (61 kDa) using baculovirus expression system. GST-MAP3K4 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K6  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 100

*\*MAP2K6/p38 $\alpha$ /Modified Erktide*

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## **MAP3K5**

Product code 07-107

Human MAP3K5, catalytic domain [654-971 amino acids of accession number NP\_005914.1] was expressed as N-terminal GST-tagged protein (62 kDa) using baculovirus expression system. GST-MAP3K5 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K6  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 14

*\*MAP2K6/p38 $\alpha$ /Modified Erktide*

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## **MLK1(MAP3K9)**

Product code 09-115

Human MLK1, catalytic domain [110-422 amino acids of accession number NP\_149132.2] was expressed as N-terminal GST-fusion protein (62kDa) using baculovirus expression system. GST-MLK1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 11

*\*MAP2K1/Erk2/Modified Erktide*

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## **MLK2(MAP3K10)**

Product code 09-116

Human MLK2, catalytic domain and leucine-zipper domain [75-462 amino acids of accession number NP\_002437.2] was expressed as N-terminal GST-fusion protein (71kDa) using baculovirus expression system. GST-MLK2 was purified by using glutathione sepharose chromatography and gel filtration chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 45

*\*MAP2K1/Erk2/Modified Erktide*

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## **MLK3(MAP3K11)**

Product code 09-017

Human MLK3, catalytic domain [99-398 amino acids of accession number NP\_002410.1] was expressed as N-terminal His-tagged protein (37kDa) using baculovirus expression system. His-tagged MLK3 was purified by using Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 4.8

*\*MAP2K1/Erk2/Modified Erktide*

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## **MOS**

Product code 05-118

Full-length, human MOS [1-346(end) amino acids of accession number NP\_005363.1] was expressed as N-terminal GST-fusion protein (65 kDa) using baculovirus expression system. GST-MOS was purified by using glutathione sepharose chromatography and anion exchange chromatography.

Assay platform : Mobility Shift Assay  
 Substrate : MAP2K1  
                   Cascade Assay\*  
 Metal : Mg  
 Reference compound : Staurosporine  
 IC50 at 1 mM ATP (nM) : 32

*\*MAP2K1/Erk2/Modified Erktide*

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**RAF1**

Product code 09-125

Human RAF1, catalytic domain [306-648(end) amino acids and Y340D and Y341D of accession number NP\_002871.1] was expressed as N-terminal GST-fusion protein (66 kDa) using baculovirus expression system. GST-RAF1 was purified by using glutathione sepharose chromatography.

Assay platform : Mobility Shift Assay  
Substrate : MAP2K1  
Cascade Assay\*  
Metal : Mg  
Reference compound : ZM336372  
IC50 at 1 mM ATP (nM) : 2800

*\*MAP2K1/Erk2/Modified Erktide*

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**TAK1-TAB1(MAP3K7)**

Product code 09-019

Fused gene of human TAK1 [1-303 amino acids of accession number NP\_663304.1] and human TAB1 [437-504 amino acids of accession number NP\_006107.1] was expressed as N-terminal His-tagged protein (45kDa) using baculovirus expression system. His-tagged TAK1-TAB1 was purified by using Ni-NTA affinity chromatography.

Assay platform : Mobility Shift Assay  
Substrate : MAP2K4/MAP2K7  
Cascade Assay\*  
Metal : Mg  
Reference compound : Staurosporine  
IC50 at 1 mM ATP (nM) : 340

*\*(MAP2K4/MAP2K7)/JNK2/Modified Erktide*

## Assay conditions

### Test compounds

The test compound is dissolved in and diluted with dimethylsulfoxide (DMSO) to achieve 100-fold higher concentration which is specified by the sponsor. Then the solution is further 25-fold diluted with assay buffer to make the final test compound solution. Reference compounds for the assay control are prepared similarly.

### Assay reagents and procedures

#### TK-ELISA

- 1) 4x Substrate/ATP/Metal solution, and 2x kinase solution are prepared with assay buffer (15 mM Tris-HCl, 0.01% Tween-20, 2 mM DTT, pH7.5).
- 2) 10  $\mu$ L of 4x compound solution, 10  $\mu$ L of 4x Substrate/ATP/Metal solution, and 20  $\mu$ L of 2x kinase solution are mixed in a well of streptavidine-coated 96 well microplate (Perkin Elmer).
- 3) The well is incubated for 1 hour at room temperature and then washed 4 times to stop the reaction.
- 4) The well is blocked for 30 minutes with blocking buffer containing 0.1% BSA and then 100  $\mu$ L of the detection antibody (HRP conjugated PY20; Santa Cruz Biotechnology) solution is added and incubated for 30 minutes.
- 5) After washing the well, 100  $\mu$ L of TMB solution (MOSS Inc.) is added and incubated for 5 minutes. To stop the HRP reaction, 100  $\mu$ L of 0.1 M sulfuric acid is added.
- 6) The kinase reaction is evaluated by the absorbance at 450 nm of the well.

#### STK-ELISA

- 1) 4x Substrate/ATP/Metal solution, and 2x kinase solution are prepared with assay buffer (15 mM Tris-HCl, 0.01% Tween-20, 2 mM DTT, pH7.5).
- 2) 10  $\mu$ L of 4x compound solution, 10  $\mu$ L of 4x Substrate/ATP/Metal solution, and 20  $\mu$ L of 2x kinase solution are mixed and incubated in a well of polypropylene 96 well microplate for 0.5 or 1 hour\* at room temperature. (\*; depend on kinase)
- 3) 120  $\mu$ L of 40 mM EDTA solution (pH 7.5) is added to the well, and then 120  $\mu$ L of the mixture is transferred to the well of ELISA plate (see below table).
- 4) After 30 minutes incubation, the well is washed 4 times, and blocked for 30 minutes with blocking buffer containing 0.1% BSA.
- 5) 100  $\mu$ L of the first antibody (see below table) solution is added to the well and incubated for 30 minutes.
- 6) After 4 times washing of the well, 100  $\mu$ L of the second antibody (see below table) solution is added to the well, and incubated for 30 minutes.
- 7) After washing the well, 100  $\mu$ L of TMB solution (MOSS Inc.) is added and incubated for 5 minutes. To stop the HRP reaction, 100  $\mu$ L of 0.1 M sulfuric acid is added.
- 8) The kinase reaction is evaluated by the absorbance at 450 nm of the well.

### IMAP™ assay

- 1) 4x Substrate/ATP/Metal solution and 2x kinase solution are prepared with assay buffer (20 mM HEPES, 0.01% Tween-20, 2 mM DTT, pH7.4).
- 2) 5 µL of 4x compound solution, 5 µL of 4x Substrate/ATP/Metal solution, and 10 µL of 2x kinase solution are mixed and incubated in a well of polystyrene 384 well black microplate for 1 hour at room temperature.
- 3) 60 µL of IMAP binding reagent (IMAP™ Screening Express kit; Molecular Devices) is added to the well, and incubated for over 30 minutes.
- 4) The kinase reaction is evaluated by the fluorescence polarization at 485 nm for excitation and 530 nm for emission of the well.

### Off-chip Mobility Shift Assay (MSA)

- 1) 4x Substrate/ATP/Metal solution is prepared with kit buffer (20 mM HEPES, 0.01% Triton X-100, 5 mM DTT, pH7.5), and 2x kinase solution is prepared with assay buffer (20 mM HEPES, 0.01% Triton X-100, 1 mM DTT, pH7.5).
- 2) 5 µL of 4x compound solution, 5 µL of 4x Substrate/ATP/Metal solution, and 10 µL of 2x kinase solution are mixed and incubated in a well of polypropylene 384 well microplate for 1 or 5 hour(s)\* at room temperature. (\*; depend on kinase)
- 3) 70 µL of Termination Buffer (QuickScout Screening Assist MSA; Carna Biosciences) is added to the well.
- 4) The reaction mixture is applied to LabChip™ system (PerkinElmer), and the product and substrate peptide peaks are separated and quantitated.
- 5) The kinase reaction is evaluated by the product ratio calculated from peak heights of product(P) and substrate(S) peptides (P/(P+S)).

### Off-chip Mobility Shift Assay (MSA) with pre-incubation

- 1) 4x Substrate/ATP/Metal solution is prepared with kit buffer (20 mM HEPES, 0.01% Triton X-100, 5 mM DTT, pH7.5), and 2x kinase solution is prepared with assay buffer (20 mM HEPES, 0.01% Triton X-100, 1 mM DTT, pH7.5).
- 2) 5 µL of 4x compound solution and 10 µL of 2x kinase solution are mixed and incubated in a well of polypropylene 384 well microplate for 30 minutes at room temperature.
- 3) 5 µL of 4x Substrate/ATP/Metal solution is added to the well, and incubated for 1 hour at room temperature.
- 4) 70 µL of Termination Buffer (QuickScout Screening Assist MSA; Carna Biosciences) is added to the well.
- 5) The reaction mixture is applied to LabChip™ system (PerkinElmer), and the product and substrate peptide peaks are separated and quantitated.
- 6) The kinase reaction is evaluated by the product ratio calculated from peak heights of product(P) and substrate(S) peptides (P/(P+S)).

### ADP-Glo™ Kinase Assay

- 1) 4x compound solution and 4x ATP solution are prepared with assay buffer (50 mM MOPS, 1 mM DTT, pH7.2). 4x Substrate solution and 4x kinase/Metal solution are prepared with MOPS based buffer containing individual kinase specific additives.
- 2) 5  $\mu$ L of 4x compound solution, 5  $\mu$ L of 4x Substrate solution, 5  $\mu$ L of 4x ATP solution, and 5  $\mu$ L of 4x kinase/Metal solution are mixed and incubated in a well of polystyrene 384 well black microplate for 1 hour at room temperature.
- 3) 20  $\mu$ L of ADP-Glo™ Reagent (Promega) is added to the well, and incubated for over 40 minutes.
- 4) 40  $\mu$ L of Kinase Detection Reagent (Promega) is added to the well, and incubated for over 40 minutes.
- 5) The kinase reaction is evaluated by the endpoint luminescence of the well.



## ELISA plate and Antibody

Kinase	ELISA plate and Antibody
BMPRI1A	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho Smad1(Ser463/Ser465) antibody (Santa Cruz Biotechnology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
BRAF	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MEK1/2(Ser217/221) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
BRAF [V600E]	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MEK1/2(Ser217/221) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
COT	ELISA plate: Streptavidin coated plate (NUNC) 1st Ab: Anti-phospho MEK1/2(Ser217/221) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
DLK	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
LIMK1	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho-Cofilin 2 (Ser3) (Millipore) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
LKB1	ELISA plate: Streptavidin coated plate (NUNC) 1st Ab: Rabbit phospho-threonine antibody (P-Thr-Polyclonal) (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP2K1	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho p44/42 MAPK(Erk1/2) (Thr202/Tyr204) (D13.14.4E) monoclonal antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP2K2	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho p44/42 MAPK(Erk1/2) (Thr202/Tyr204) (D13.14.4E) monoclonal antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP2K3	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho p38 MAPK (Thr180/Tyr182) (D3F9) monoclonal antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP2K4	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho JNK(Thr183/Tyr185, Thr221/Tyr223) rabbit Antibody (Millipore) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP2K5	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho-ERK5(Thr218/Tyr220) antibody (Santa Cruz Biotechnology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP2K6	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho p38 MAPK (Thr180/Tyr182) (D3F9) monoclonal antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP2K7	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho JNK(Thr183/Tyr185, Thr221/Tyr223) rabbit Antibody (Millipore) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP3K1	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MEK1/2(Ser217/221) antibody(41G9) (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP3K2	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP3K3	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)

Kinase	ELISA plate and Antibody
MAP3K4	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Rabbit polyclonal to MEK3 + MEK6 (phospho S189) (abcam) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MAP3K5	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MLK1	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MLK2	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MLK3	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
MOS	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MEK1/2(Ser217/221) antibody(41G9) (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
RAF1	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MEK1/2(Ser217/221) antibody(41G9) (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)
TAK1-TAB1	ELISA plate: Glutathione coated 96 well plate (NUNC) 1st Ab: Anti-phospho MKK7(Ser271/Thr275) antibody (Cell Signaling Technology) 2nd Ab: HRP labeled goat anti-rabbit IgG Ab (Abcam)

## Reaction conditions

### ATP Km bin

Kinase	Platform	Substrate		ATP ( $\mu$ M)		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
ABL	MSA	ABLTide	1000	16	25	Mg	5	Staurosporine
ABL[E255K]	MSA	ABLTide	1000	17	25	Mg	5	Staurosporine
ABL[T315I]	MSA	ABLTide	1000	4.0	5	Mg	5	Staurosporine
ACK <sup>1)</sup>	MSA	WASP peptide	1000	97	100	Mg	5	Staurosporine
AKT1	MSA	Crosstide	1000	31	50	Mg	5	Staurosporine
AKT2	MSA	Crosstide	1000	110	100	Mg	5	Staurosporine
AKT3	MSA	Crosstide	1000	54	50	Mg	5	Staurosporine
ALK	MSA	Srctide	1000	57	50	Mg	5	Staurosporine
ALK[C1156Y]	MSA	Srctide	1000	64	75	Mg	5	Staurosporine
ALK[F1174L]	MSA	Srctide	1000	49	50	Mg	5	Staurosporine
ALK[G1202R]	MSA	Srctide	1000	31	50	Mg	5	Staurosporine
ALK[G1269A]	MSA	Srctide	1000	27	25	Mg	5	Staurosporine
ALK[L1196M]	MSA	Srctide	1000	63	75	Mg	5	Staurosporine
ALK[R1275Q]	MSA	Srctide	1000	84	100	Mg	5	Staurosporine
ALK[L1152insT]	MSA	Srctide	1000	108	100	Mg	5	Staurosporine
EML4-ALK <sup>1)</sup>	MSA	Srctide	1000	43	50	Mg	5	Staurosporine
NPM1-ALK	MSA	Srctide	1000	57	50	Mg	5	Staurosporine
AMPK $\alpha$ 1/ $\beta$ 1/ $\gamma$ 1	MSA	SAMS peptide	1000	130	150	Mg	5	Staurosporine
AMPK $\alpha$ 2/ $\beta$ 1/ $\gamma$ 1	MSA	SAMS peptide	1000	100	100	Mg	5	Staurosporine
ARG	MSA	ABLTide	1000	24	25	Mg	5	Staurosporine
AurA	MSA	Kemptide	1000	27	25	Mg	5	Staurosporine
AurA/TPX2 <sup>9)</sup>	MSA	Kemptide	1000	1.7	2	Mg	5	Staurosporine
AurB/INCENP	MSA	Kemptide	1000	16	25	Mg	5	Staurosporine
AurC	MSA	Kemptide	1000	24	25	Mg	5	Staurosporine
AXL	MSA	CSKTide	1000	32	50	Mg	5	Staurosporine
BLK	MSA	Srctide	1000	62	75	Mg	5	Staurosporine
BMPR1A	STK-ELISA	Smad1	125	19	20	Mg	5	Staurosporine
BMX	MSA	Srctide	1000	75	75	Mg	5	Staurosporine
BRAF	STK-ELISA	MAP2K1	85	0.061	0.1	Mg	40	ZM336372
BRAF[V600E]	STK-ELISA	MAP2K1	85	3.2	5	Mg	40	ZM336372
BRK <sup>1)</sup>	MSA	Blk/Lyntide	1000	250	250	Mg	5	Staurosporine
BRSK1	MSA	CHKTide	1000	30	25	Mg	5	Staurosporine
BRSK2	MSA	CHKTide	1000	31	50	Mg	5	Staurosporine
BTK	MSA	Srctide	1000	22	25	Mg	5	Staurosporine
BTK[C481S]	MSA	Srctide	1000	27	25	Mg	5	Staurosporine
BUB1/BUB3	MSA	H2A peptide	1000	2.9	5	Mg	5	Staurosporine
CaMK1 $\alpha$ <sup>1)3)</sup>	MSA	GS peptide	1000	750	1000	Mg	5	Staurosporine
CaMK1 $\delta$ <sup>1)3)</sup>	MSA	Synapsin peptide	1000	11	10	Mg	5	Staurosporine
CaMK2 $\alpha$ <sup>3)</sup>	MSA	GS peptide	1000	33	50	Mg	5	Staurosporine
CaMK2 $\beta$ <sup>3)</sup>	MSA	GS peptide	1000	19	25	Mg	5	Staurosporine
CaMK2 $\gamma$ <sup>3)</sup>	MSA	GS peptide	1000	23	25	Mg	5	Staurosporine
CaMK2 $\delta$ <sup>3)</sup>	MSA	GS peptide	1000	6.3	5	Mg	5	Staurosporine
CaMK4 <sup>3)</sup>	MSA	GS peptide	1000	20	25	Mg	5	Staurosporine
CDC2/CycB1	MSA	Modified Histone H1	1000	34	50	Mg	5	Staurosporine
CDC7/ASK <sup>1)</sup>	MSA	MCM2 peptide	1000	2.8	5	Mg	10	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
CDK2/CycA2	MSA	Modified Histone H1	1000	27	25	Mg	5	Staurosporine
CDK2/CycE1	MSA	Modified Histone H1	1000	132	150	Mg	5	Staurosporine
CDK3/CycE1	MSA	Modified Histone H1	1000	1000	1000	Mg	5	Staurosporine
CDK4/CycD3 <sup>1)</sup>	MSA	DYRKtide-F	1000	200	200	Mg	5	Staurosporine
CDK5/p25	MSA	Modified Histone H1	1000	10	10	Mg	5	Staurosporine
CDK6/CycD3 <sup>1)</sup>	MSA	DYRKtide-F	1000	330	300	Mg	5	Staurosporine
CDK7/CycH/MAT1 <sup>1)</sup>	MSA	CTD3 peptide	1000	32	50	Mg	5	Staurosporine
CDK9/CycT1 <sup>1)</sup>	MSA	CDK9 substrate	1000	9.4	10	Mg	5	Staurosporine
CGK2 <sup>4)</sup>	MSA	Kemptide	1000	24	25	Mg	5	Staurosporine
CHK1	MSA	CHKtide	1000	50	50	Mg	5	Staurosporine
CHK2	MSA	CHKtide	1000	51	50	Mg	5	Staurosporine
CK1 $\alpha$ <sup>1)</sup>	MSA	CKtide	1000	4.1	5	Mg	5	5-Iodotubercidin
CK1 $\gamma$ 1	MSA	CKtide	1000	6.3	5	Mg	5	5-Iodotubercidin
CK1 $\gamma$ 2	MSA	CKtide	1000	10	10	Mg	5	5-Iodotubercidin
CK1 $\gamma$ 3	MSA	CKtide	1000	3.2	5	Mg	5	5-Iodotubercidin
CK1 $\delta$	MSA	CKtide	1000	7.7	10	Mg	5	5-Iodotubercidin
CK1 $\epsilon$ <sup>1)</sup>	MSA	CKtide	1000	16	25	Mg	5	5-Iodotubercidin
CK2 $\alpha$ 1/ $\beta$	MSA	CK2tide	1000	2.9	5	Mg	5	TBB
CK2 $\alpha$ 2/ $\beta$	MSA	CK2tide	1000	2.1	5	Mg	5	TBB
CLK1	MSA	DYRKtide-F	1000	11	10	Mg	5	Staurosporine
CLK2	MSA	DYRKtide-F	1000	140	150	Mg	5	Staurosporine
CLK3	MSA	DYRKtide-F	1000	75	75	Mg	5	Staurosporine
COT	STK-ELISA	MAP2K1 peptide	250	7.3	10	Mn	10	K252b
CRIK <sup>1)</sup>	MSA	Histone H3 peptide	1000	7.8	10	Mg	5	Staurosporine
CSK <sup>1)</sup>	MSA	Srctide	1000	4.8	5	Mg+Mn	5+1	Staurosporine
DAPK1	MSA	DAPK1tide	1000	1.1	1	Mg	5	Staurosporine
DCAMKL2 <sup>1)</sup>	MSA	GS peptide	1000	120	150	Mg	5	Staurosporine
DDR1 <sup>1)</sup>	MSA	IRS1	1000	94	100	Mg	5	Staurosporine
DDR2 <sup>1)</sup>	MSA	IRS1	1000	38	50	Mg	5	Staurosporine
DGK $\alpha$	ADP-Glo	Diacylglycerol	850000	128	100	Mg	5	-
DGK $\beta$	ADP-Glo	Diacylglycerol	850000	61	50	Mg	5	-
DGK $\gamma$	ADP-Glo	Diacylglycerol	850000	55	50	Mg	5	-
DGK $\delta$	ADP-Glo	Diacylglycerol	850000	117	100	Mg	5	-
DGK $\epsilon$	ADP-Glo	Diacylglycerol	775000	124	100	Mg	5	-
DGK $\zeta$	ADP-Glo	Diacylglycerol	850000	25	25	Mg	5	-
DGK $\eta$	ADP-Glo	Diacylglycerol	850000	24	25	Mg	5	-
DGK $\theta$	ADP-Glo	Diacylglycerol	850000	37	50	Mg	5	-
DGK $\iota$	ADP-Glo	Diacylglycerol	850000	34	50	Mg	5	-
DGK $\kappa$	ADP-Glo	Diacylglycerol	67500	17	25	Mg	1	-
DLK	STK-ELISA	MAP2K7	72	18	20	Mg	0.5	Staurosporine
DYRK1A	MSA	DYRKtide-F	1000	16	25	Mg	5	Staurosporine
DYRK1B	MSA	DYRKtide-F	1000	59	50	Mg	5	Staurosporine
DYRK2	MSA	DYRKtide-F	1000	7.7	10	Mg	5	Staurosporine
DYRK3	MSA	DYRKtide-F	1000	6.8	5	Mg	5	Staurosporine
EEF2K <sup>1)3)</sup>	MSA	EEF2Ktide	1000	12	10	Mg	5	NH125
EGFR	MSA	Srctide	1000	2.7	5	Mg+Mn	5+1	Staurosporine
EGFR[d746-750/T790M]	MSA	Srctide	1000	5.4	5	Mg+Mn	5+1	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
EGFR[d746-750]	MSA	Srctide	1000	19	25	Mg+Mn	5+1	Staurosporine
EGFR[L858R]	MSA	Srctide	1000	9.8	10	Mg+Mn	5+1	Staurosporine
EGFR[L861Q]	MSA	Srctide	1000	7.5	10	Mg+Mn	5+1	Staurosporine
EGFR[T790M/L858R]	MSA	Srctide	1000	1.9	2	Mg+Mn	5+1	Staurosporine
EGFR[T790M]	MSA	Srctide	1000	0.9	1	Mg+Mn	5+1	Staurosporine
EPHA1	MSA	Blk/Lyntide	1000	22	25	Mg	5	Staurosporine
EPHA2	MSA	Blk/Lyntide	1000	67	75	Mg	5	Staurosporine
EPHA3	MSA	Blk/Lyntide	1000	170	150	Mg	5	Staurosporine
EPHA4	MSA	Blk/Lyntide	1000	52	50	Mg	5	Staurosporine
EPHA5	MSA	Blk/Lyntide	1000	56	50	Mg	5	Staurosporine
EPHA6	MSA	Blk/Lyntide	1000	27	25	Mg	5	Staurosporine
EPHA7	MSA	Blk/Lyntide	1000	58	50	Mg	5	Staurosporine
EPHA8	MSA	Blk/Lyntide	1000	69	75	Mg	5	Staurosporine
EPHB1	MSA	Blk/Lyntide	1000	29	25	Mg	5	Staurosporine
EPHB2	MSA	Blk/Lyntide	1000	86	100	Mg	5	Staurosporine
EPHB3	MSA	Blk/Lyntide	1000	49	50	Mg	5	Staurosporine
EPHB4	MSA	Blk/Lyntide	1000	56	50	Mg	5	Staurosporine
Erk1	MSA	Modified Erktide	1000	34	50	Mg	5	5-Iodotubercidin
Erk2	MSA	Modified Erktide	1000	33	50	Mg	5	5-Iodotubercidin
Erk5 <sup>1)</sup>	MSA	EGFR-derived peptide	1000	450	1000	Mg	5	Staurosporine
FAK <sup>1)</sup>	MSA	Blk/Lyntide	1000	25	25	Mg	5	Staurosporine
FER	MSA	Srctide	1000	26	25	Mg	5	Staurosporine
FES	MSA	Srctide	1000	43	50	Mg	5	Staurosporine
FGFR1	MSA	CSKtide	1000	89	100	Mg	5	Staurosporine
FGFR1[V561M]	MSA	CSKtide	1000	33	50	Mg	5	Staurosporine
FGFR2	MSA	CSKtide	1000	66	75	Mg	5	Staurosporine
FGFR2 [V564I]	MSA	CSKtide	1000	21	25	Mg	5	Staurosporine
FGFR3	MSA	CSKtide	1000	43	50	Mg	5	Staurosporine
FGFR3[K650E]	MSA	CSKtide	1000	41	50	Mg	5	Staurosporine
FGFR3[K650M]	MSA	CSKtide	1000	17	25	Mg	5	Staurosporine
FGFR3 [V555L]	MSA	CSKtide	1000	29	25	Mg	5	Staurosporine
FGFR3 [V555M]	MSA	CSKtide	1000	37	50	Mg	5	Staurosporine
FGFR4	MSA	CSKtide	1000	230	250	Mg	5	Staurosporine
FGFR4[N535K]	MSA	CSKtide	1000	30	25	Mg	5	Staurosporine
FGFR4[V550E]	MSA	CSKtide	1000	210	200	Mg	5	Staurosporine
FGFR4[V550L]	MSA	CSKtide	1000	160	150	Mg	5	Staurosporine
FGR	MSA	Srctide	1000	34	50	Mg	5	Staurosporine
FLT1	MSA	CSKtide	1000	140	150	Mg	5	Staurosporine
FLT3	MSA	Srctide	1000	94	100	Mg	5	Staurosporine
FLT4	MSA	CSKtide	1000	72	75	Mg	5	Staurosporine
FMS	MSA	Srctide	1000	26	25	Mg	5	Staurosporine
FRK	MSA	Srctide	1000	62	75	Mg	5	Staurosporine
FYN[isoform a]	MSA	Srctide	1000	36	50	Mg	5	Staurosporine
FYN[isoform b]	MSA	Srctide	1000	20	25	Mg	5	Staurosporine
GSK3 $\alpha$	MSA	CREBtide-p	1000	12	10	Mg	5	Staurosporine
GSK3 $\beta$	MSA	CREBtide-p	1000	9.1	10	Mg	5	Staurosporine
Haspin	MSA	Histone H3 peptide	1000	140	150	Mg	5	Staurosporine
HCK	MSA	Srctide	1000	11	10	Mg	5	Staurosporine
HER2	MSA	Srctide	1000	3.5	5	Mn	5	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
HER4	MSA	Srctide	1000	27	25	Mg	5	Staurosporine
HGK	MSA	Moesin-derived peptide	1000	9.4	10	Mg	5	Staurosporine
HIPK1	MSA	DYRKtide-F	1000	4.4	5	Mg	5	Staurosporine
HIPK2	MSA	DYRKtide-F	1000	5.9	5	Mg	5	Staurosporine
HIPK3	MSA	DYRKtide-F	1000	7.3	5	Mg	5	Staurosporine
HIPK4	MSA	DYRKtide-F	1000	7.0	5	Mg	5	Staurosporine
IGF1R	MSA	IRS1	1000	63	75	Mg	5	Staurosporine
IKK $\alpha$	IMAP	I $\kappa$ B $\alpha$ peptide	100	41	40	Mg	10	Staurosporine
IKK $\beta$	MSA	Modified I $\kappa$ B $\alpha$ -derived peptide	1000	16	25	Mg	5	Staurosporine
IKK $\epsilon$ <sup>1)</sup>	MSA	I $\kappa$ B $\alpha$ peptide	1000	9.5	10	Mg	5	Staurosporine
INSR	MSA	IRS1	1000	58	50	Mg	5	Staurosporine
IRAK1	IMAP	SRPKtide	100	27	25	Mg	2.5	Staurosporine
IRAK4 <sup>1)</sup>	MSA	IRAK1 peptide	1000	917	1000	Mg	5	Staurosporine
IRR	MSA	IRS1	1000	64	75	Mg	5	Staurosporine
ITK	MSA	Srctide	1000	6.1	10	Mg	5	Staurosporine
JAK1 <sup>1)6)</sup>	MSA	JAK1 substrate peptide	1000	68	75	Mg	5	Staurosporine
JAK2	MSA	Srctide	1000	13	10	Mg	5	Staurosporine
JAK3	MSA	Srctide	1000	3.5	5	Mg	5	Staurosporine
JNK1	MSA	Modified Erktide	1000	29	100	Mg	5	JNK Inhibitor II
JNK2	MSA	Modified Erktide	1000	21	50	Mg	5	JNK Inhibitor II
JNK3	MSA	Modified Erktide	1000	6.0	25	Mg	5	JNK Inhibitor II
KDR	MSA	CSKtide	1000	74	75	Mg	5	Staurosporine
KIT[D816E] <sup>6)</sup>	MSA	Srctide	1000	40	50	Mg	5	Staurosporine
KIT[D816V] <sup>6)</sup>	MSA	Srctide	1000	14	10	Mg	5	Staurosporine
KIT[D816Y] <sup>6)</sup>	MSA	Srctide	1000	22	25	Mg	5	Staurosporine
KIT[T670I] <sup>6)</sup>	MSA	Srctide	1000	100	100	Mg	5	Staurosporine
KIT[V560G] <sup>6)</sup>	MSA	Srctide	1000	110	250	Mg	5	Staurosporine
KIT[V654A] <sup>6)</sup>	MSA	Srctide	1000	220	250	Mg	5	Staurosporine
KIT <sup>6)</sup>	MSA	Srctide	1000	370	400	Mg	5	Staurosporine
LATS2 <sup>1)</sup>	MSA	SGKtide	1000	381	400	Mg	5	Staurosporine
LCK	MSA	Srctide	1000	14	10	Mg	5	Staurosporine
LIMK1	STK-ELISA	Cofilin2	250	22	25	Mg	5	Staurosporine
LKB1/MO25 $\alpha$ /STRAD $\alpha$	STK-ELISA	LKBtide	250	120	150	Mg	5	Staurosporine
LOK <sup>1)</sup>	MSA	Moesin-derived peptide	1000	100	100	Mg	5	Staurosporine
LTK	MSA	Srctide	1000	49	50	Mg	5	Staurosporine
LYNa	MSA	Srctide	1000	14	10	Mg	5	Staurosporine
LYNb	MSA	Srctide	1000	18	25	Mg	5	Staurosporine
MAP2K1	STK-ELISA	Erk2	100	11	10	Mg	5	Staurosporine
MAP2K2	STK-ELISA	Erk2	100	13	15	Mg	5	Staurosporine
MAP2K3	STK-ELISA	p38 $\alpha$ (9-352)	100	0.36	0.5	Mg	10	Staurosporine
MAP2K4 <sup>2)</sup>	STK-ELISA	JNK1	250	1.6	2	Mg	10	Staurosporine
MAP2K5 <sup>2)</sup>	STK-ELISA	Erk5	25	1.2	1	Mg	5	Staurosporine
MAP2K6	STK-ELISA	p38 $\alpha$ (9-352)	100	0.56	0.5	Mg	10	Staurosporine
MAP2K7 <sup>2)</sup>	STK-ELISA	JNK1	250	2.7	3	Mg	10	Staurosporine
MAP3K1	STK-ELISA	MAP2K1	85	1.1	1	Mg	40	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
MAP3K2	STK-ELISA	MAP2K7	180	0.83	1	Mg	10	Staurosporine
MAP3K3	STK-ELISA	MAP2K7	180	1.6	2	Mg	10	Staurosporine
MAP3K4	STK-ELISA	MAP2K6	200	31	30	Mg	2.5	Staurosporine
MAP3K5	STK-ELISA	MAP2K7	180	2.0	2	Mg	5	Staurosporine
MAP4K2	MSA	S6k2 peptide	1000	93	100	Mg	5	Staurosporine
MAPKAPK2	MSA	GS peptide	1000	3.6	5	Mg	5	Staurosporine
MAPKAPK3	MSA	GS peptide	1000	13	10	Mg	5	K252b
MAPKAPK5	MSA	GS peptide	1000	12	10	Mg	5	Staurosporine
MARK1	MSA	CHKtide	1000	8.0	10	Mg	5	Staurosporine
MARK2	MSA	CHKtide	1000	8.8	10	Mg	5	Staurosporine
MARK3	MSA	CHKtide	1000	5.0	5	Mg	5	Staurosporine
MARK4	MSA	CHKtide	1000	12	10	Mg	5	Staurosporine
MELK <sup>1)</sup>	MSA	GS peptide	1000	38	50	Mg	5	Staurosporine
MER	MSA	CSKtide	1000	36	50	Mg	5	Staurosporine
MET	MSA	Srctide	1000	27	25	Mg	5	Staurosporine
MET[D1228H]	MSA	Srctide	1000	25	25	Mg	5	Staurosporine
MET[M1250T]	MSA	Srctide	1000	17	25	Mg	5	Staurosporine
MET[Y1235D]	MSA	Srctide	1000	71	75	Mg	5	Staurosporine
MINK <sup>1)</sup>	MSA	Modified Erktide	1000	16	50	Mg	5	K252b
MLK1	STK-ELISA	MAP2K7	180	1.7	2	Mg	5	Staurosporine
MLK2	STK-ELISA	MAP2K7	180	2.8	3	Mg	5	Staurosporine
MLK3	STK-ELISA	MAP2K7	180	5.0	5	Mg	10	Staurosporine
MNK1	MSA	RS peptide	1000	460	450	Mg	5	Staurosporine
MNK2	MSA	RS peptide	1000	110	100	Mg	5	Staurosporine
MOS	STK-ELISA	MAP2K1 [inactive mutant]	250	10	10	Mg	5	Staurosporine
MRCK $\alpha$ <sup>1)</sup>	MSA	DAPK1tide	1000	0.45	1	Mg	5	Staurosporine
MRCK $\beta$	MSA	DAPK1tide	1000	0.67	1	Mg	5	Staurosporine
MSK1	MSA	Crosstide	1000	13	10	Mg	5	Staurosporine
MSK2 <sup>1)</sup>	MSA	Crosstide	1000	40	50	Mg	5	Staurosporine
MSSK1 <sup>1)</sup>	MSA	DYRKtide-F	1000	56	50	Mg	5	Staurosporine
MST1 <sup>1)10)</sup>	MSA	IRS1	1000	50	50	Mg	5	Staurosporine
MST2 <sup>1)7)</sup>	MSA	IRS1	1000	69	75	Mg	5	Staurosporine
MST3 <sup>1)</sup>	MSA	Moesin-derived peptide	1000	66	75	Mg	5	Staurosporine
MST4 <sup>1)</sup>	MSA	Moesin-derived peptide	1000	76	75	Mg	5	Staurosporine
MUSK <sup>1)</sup>	MSA	CSKtide	1000	14	10	Mg+Mn	5+1	Staurosporine
NDR1 <sup>1)</sup>	MSA	SGKtide	1000	12	10	Mg	5	Staurosporine
NDR2 <sup>1)</sup>	MSA	SGKtide	1000	7.6	10	Mg	5	Staurosporine
NEK1 <sup>1)</sup>	MSA	CDK7 peptide	1000	64	75	Mg	5	Staurosporine
NEK2	MSA	CDK7 peptide	1000	65	75	Mg	5	Staurosporine
NEK4	MSA	GS peptide	1000	51	50	Mg	5	Staurosporine
NEK6 <sup>1)</sup>	MSA	CDK7 peptide	1000	69	75	Mg	5	PKR Inhibitor
NEK7 <sup>1)</sup>	MSA	CDK7 peptide	1000	40	50	Mg	5	PKR Inhibitor
NEK9 <sup>1)</sup>	MSA	CDK7 peptide	1000	190	200	Mg	5	Staurosporine
NIM1K(MGC42105)	MSA	CHKtide	1000	21	25	Mg	5	Staurosporine
NuaK1	MSA	CHKtide	1000	59	50	Mg	5	Staurosporine
NuaK2	MSA	CHKtide	1000	26	25	Mg	5	Staurosporine
p38 $\alpha$	MSA	Modified Erktide	1000	150	150	Mg	5	SB202190

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
p38 $\beta$	MSA	Modified Erktide	1000	63	75	Mg	5	SB202190
p38 $\gamma$	MSA	Modified Erktide	1000	13	10	Mg	5	Staurosporine
p38 $\delta$	MSA	Modified Erktide	1000	5.8	5	Mg	5	Staurosporine
p70S6K	MSA	S6k2 peptide	1000	14	10	Mg	5	Staurosporine
p70S6K $\beta$	MSA	S6k2 peptide	1000	3.3	5	Mg	5	Staurosporine
PAK1	MSA	LIMKtide	1000	300	300	Mg	5	Staurosporine
PAK2	MSA	DAPK1tide	1000	81	100	Mg	5	Staurosporine
PAK4 <sup>1)</sup>	MSA	SGKtide	1000	2.5	5	Mg	5	Staurosporine
PAK5	MSA	DAPK1tide	1000	1.9	1	Mg	5	Staurosporine
PAK6 <sup>1)</sup>	MSA	SGKtide	1000	3.7	5	Mg	5	Staurosporine
PASK <sup>1)</sup>	MSA	GS peptide	1000	9.7	10	Mg	5	Staurosporine
PBK <sup>1)</sup>	MSA	Histone H3 peptide	1000	33	50	Mg	5	Staurosporine
PDGFR $\alpha$	MSA	CSKtide	1000	28	25	Mg	5	Staurosporine
PDGFR $\alpha$ [D842V]	MSA	CSKtide	1000	21	25	Mg	5	Staurosporine
PDGFR $\alpha$ [T674I] <sup>1)</sup>	MSA	CSKtide	1000	11	10	Mg	5	Staurosporine
PDGFR $\alpha$ [V561D]	MSA	CSKtide	1000	35	50	Mg	5	Staurosporine
PDGFR $\beta$	MSA	CSKtide	1000	23	25	Mg	5	Staurosporine
PDHK2 <sup>1)</sup>	MSA	PDHKtide	1000	28	25	Mg+K	5+3	DCA
PDHK4 <sup>1)</sup>	MSA	PDHKtide	1000	19	25	Mg+K	5+25	DCA
PDK1 <sup>1)8)</sup>	MSA	T308tide	1000	9.6	10	Mg	5	Staurosporine
PEK	IMAP	SRPKtide	100	13	10	Mg	5	Staurosporine
PGK <sup>1)4)</sup>	MSA	Kemptide	1000	8.2	10	Mg	5	Staurosporine
PHKG1 <sup>1)</sup>	MSA	GS peptide	1000	71	75	Mg	5	Staurosporine
PHKG2	MSA	GS peptide	1000	8.1	10	Mg	5	Staurosporine
PIK3CA/PIK3R1	ADP-Glo	PI(4,5)P2	10000	89	100	Mg	5	PI-103
PIKFYVE(PIP5K3)	ADP-Glo	PI(3)P	10000	36	50	Mg	5	AG-183
PIM1	MSA	S6k2 peptide	1000	640	500	Mg	5	Staurosporine
PIM2 <sup>1)</sup>	MSA	S6k2 peptide	1000	4.0	5	Mg	5	Staurosporine
PIM3	MSA	S6k2 peptide	1000	130	150	Mg	5	Staurosporine
PIP4K2A	ADP-Glo	PI(5)P	10000	20	25	Mg	5	AG-183
PIP4K2B	ADP-Glo	PI(5)P	10000	18	25	Mn	0.25	AG-183
PIP5K1A	ADP-Glo	PI(4)P	10000	20	25	Mg	5	AG-183
PIP5K1B	ADP-Glo	PI(4)P	10000	136	100	Mg	5	AG-183
PIP5K1C	ADP-Glo	PI(4)P	10000	33	50	Mg	5	AG-183
PIP5KL1	ADP-Glo	PI(4)P	10000	1	1	Mg	5	AG-183
PKAC $\alpha$	MSA	Kemptide	1000	2.6	5	Mg	5	Staurosporine
PKAC $\beta$	MSA	Kemptide	1000	4.7	5	Mg	5	Staurosporine
PKAC $\gamma$ <sup>1)</sup>	MSA	Kemptide	1000	4.5	5	Mg	5	Staurosporine
PKC $\alpha$ <sup>5)</sup>	MSA	PKC peptide	1000	36	50	Mg+Ca	5+0.05	Staurosporine
PKC $\beta$ 1 <sup>5)</sup>	MSA	PKC peptide	1000	79	75	Mg+Ca	5+0.05	Staurosporine
PKC $\beta$ 2 <sup>5)</sup>	MSA	PKC peptide	1000	41	50	Mg+Ca	5+0.05	Staurosporine
PKC $\gamma$ <sup>5)</sup>	MSA	PKC peptide	1000	74	75	Mg+Ca	5+0.05	Staurosporine
PKC $\delta$ <sup>5)</sup>	MSA	PKC peptide	1000	26	25	Mg	5	Staurosporine
PKC $\epsilon$ <sup>5)</sup>	MSA	PKC peptide	1000	16	25	Mg	5	Staurosporine
PKC $\zeta$	MSA	PKC peptide	1000	11	10	Mg	5	Staurosporine
PKC $\eta$ <sup>5)</sup>	MSA	PKC peptide	1000	36	50	Mg	5	Staurosporine
PKC $\theta$ <sup>5)</sup>	MSA	PKC peptide	1000	18	25	Mg	5	Staurosporine
PKC $\iota$	MSA	PKC peptide	1000	27	25	Mg	5	Staurosporine
PKD1	MSA	GS peptide	1000	25	25	Mg	5	Staurosporine



Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
PKD2	MSA	GS peptide	1000	26	25	Mg	5	Staurosporine
PKD3	MSA	GS peptide	1000	34	50	Mg	5	Staurosporine
PKN1	IMAP	S6K peptide	100	19	25	Mg	1	Staurosporine
PKR	IMAP	SRPKtide	100	13	10	Mg	5	Staurosporine
PLK1 <sup>1)</sup>	MSA	CDC25ctide	1000	5.6	5	Mg	5	Staurosporine
PLK2	IMAP	CHK2 peptide	50	30	30	Mg	10	K252b
PLK3	MSA	CDC25ctide	1000	6.8	5	Mg	5	K252b
PRKX <sup>1)</sup>	MSA	Kemptide	1000	20	25	Mg	5	Staurosporine
PYK2	MSA	Blk/Lyntide	1000	56	50	Mg	5	Staurosporine
QIK	MSA	AMARA peptide	1000	42	50	Mg	5	Staurosporine
RAF1	STK-ELISA	MAP2K1	85	0.39	0.5	Mg	40	ZM336372
RET	MSA	CSKtide	1000	7.5	10	Mg	5	Staurosporine
RET[G691S]	MSA	CSKtide	1000	13	10	Mg	5	Staurosporine
RET[M918T]	MSA	CSKtide	1000	4.2	5	Mg	5	Staurosporine
RET[S891A]	MSA	CSKtide	1000	11	10	Mg	5	Staurosporine
RET[Y791F]	MSA	CSKtide	1000	29	25	Mg	5	Staurosporine
ROCK1	MSA	LIMKtide	1000	3.1	5	Mg	5	Staurosporine
ROCK2	MSA	LIMKtide	1000	7.4	5	Mg	5	Staurosporine
RON	MSA	Srctide	1000	27	25	Mg	5	Staurosporine
ROS	MSA	IRS1	1000	37	50	Mg	5	Staurosporine
RSK1	MSA	S6K peptide (N-FL)	1000	21	25	Mg	5	Staurosporine
RSK2	MSA	S6K peptide (N-FL)	1000	14	10	Mg	5	Staurosporine
RSK3	MSA	S6K peptide (N-FL)	1000	9.9	10	Mg	5	Staurosporine
RSK4	MSA	S6K peptide (N-FL)	1000	20	25	Mg	5	Staurosporine
SGK	MSA	SGKtide	1000	52	50	Mg	5	Staurosporine
SGK2	MSA	SGKtide	1000	58	50	Mg	5	Staurosporine
SGK3	MSA	SGKtide	1000	17	25	Mg	5	Staurosporine
SIK(SNF1LK) <sup>1)</sup>	MSA	AMARA peptide	1000	47	50	Mg	5	Staurosporine
skMLCK <sup>3)</sup>	MSA	MLCtide	1000	820	1000	Mg	5	Staurosporine
SLK <sup>1)</sup>	MSA	Moesin-derived peptide	1000	36	50	Mg	5	Staurosporine
SPHK1	MSA	Sphingosine	1000	20	25	Mg	5	PF-543
SPHK2	MSA	Sphingosine	1000	620	600	Mg	5	PF-543
SRC	MSA	Srctide	1000	31	50	Mg	5	Staurosporine
SRM	MSA	Blk/Lyntide	1000	38	50	Mg	5	Staurosporine
SRPK1	IMAP	SRPKtide	100	200	100	Mg	10	Staurosporine
SRPK2 <sup>1)</sup>	MSA	DYRKtide-F	1000	14	10	Mg	5	Staurosporine
SYK	MSA	Blk/Lyntide	1000	59	50	Mg	5	Staurosporine
TAK1-TAB1	STK-ELISA	MAP2K7	180	10	10	Mg	10	Staurosporine
TAOK2 <sup>1)7)</sup>	MSA	TAOKtide	1000	39	50	Mg	5	Staurosporine
TBK1	MSA	CKtide	1000	21	25	Mg	5	Staurosporine
TEC	MSA	Srctide	1000	55	50	Mg	5	Staurosporine
TIE2	MSA	Blk/Lyntide	1000	94	100	Mg	5	Staurosporine
TNIK	MSA	Moesin-derived peptide	1000	16	25	Mg	5	Staurosporine
TNK1 <sup>1)</sup>	MSA	CSKtide	1000	71	75	Mg	5	Staurosporine
TRKA	MSA	CSKtide	1000	65	75	Mg	5	Staurosporine
TRKB	MSA	Srctide	1000	80	75	Mg	5	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
TRKC	MSA	Srctide	1000	47	50	Mg	5	Staurosporine
TSSK1	MSA	GS peptide	1000	11	10	Mg	5	Staurosporine
TSSK2 <sup>1)</sup>	MSA	GS peptide	1000	8.8	10	Mg	5	Staurosporine
TSSK3 <sup>1)</sup>	MSA	GS peptide	1000	45	50	Mg	5	Staurosporine
TTK	TK-ELISA	Lyn substrate peptide	250	0.16	0.2	Mn	10	Staurosporine
TXK <sup>1)</sup>	MSA	Srctide	1000	110	100	Mg	5	Staurosporine
TYK2 <sup>1)</sup>	MSA	Srctide	1000	18	25	Mg	5	Staurosporine
TYRO3	MSA	CSKtide	1000	80	75	Mg	5	Staurosporine
WEE1	TK-ELISA	CDC2 peptide	250	7.7	10	Mg	5	Staurosporine
WNK1 <sup>1)</sup>	MSA	SPAKtide	1000	140	150	Mg+Mn	5+3	Staurosporine
WNK2 <sup>1)</sup>	MSA	SPAKtide	1000	48	50	Mg+Mn	5+3	Staurosporine
WNK3 <sup>1)</sup>	MSA	SPAKtide	1000	48	50	Mg+Mn	5+3	Staurosporine
YES(YES1)	MSA	Srctide	1000	13	10	Mg	5	Staurosporine
YES(YES1)[T348I]	MSA	Srctide	1000	8.5	10	Mg	5	Staurosporine
ZAP70	MSA	Blk/Lyntide	1000	3.3	5	Mg+Mn	5+1	Staurosporine

### ATP 1mM

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
ABL	MSA	ABLTide	1000	16	1000	Mg	5	Staurosporine
ABL[E255K]	MSA	ABLTide	1000	17	1000	Mg	5	Staurosporine
ABL[T315I]	MSA	ABLTide	1000	4.0	1000	Mg	5	Staurosporine
ACK <sup>1)</sup>	MSA	WASP peptide	1000	97	1000	Mg	5	Staurosporine
AKT1	MSA	Crosstide	1000	31	1000	Mg	5	Staurosporine
ALK	MSA	Srctide	1000	57	1000	Mg	5	Staurosporine
ALK[C1156Y]	MSA	Srctide	1000	64	1000	Mg	5	Staurosporine
ALK[F1174L]	MSA	Srctide	1000	49	1000	Mg	5	Staurosporine
ALK[G1202R]	MSA	Srctide	1000	31	1000	Mg	5	Staurosporine
ALK[G1269A]	MSA	Srctide	1000	27	1000	Mg	5	Staurosporine
ALK [L1196M]	MSA	Srctide	1000	63	1000	Mg	5	Staurosporine
ALK[R1275Q]	MSA	Srctide	1000	84	1000	Mg	5	Staurosporine
ALK[L1152insT]	MSA	Srctide	1000	108	1000	Mg	5	Staurosporine
EML4-ALK <sup>1)</sup>	MSA	Srctide	1000	43	1000	Mg	5	Staurosporine
NPM1-ALK	MSA	Srctide	1000	57	1000	Mg	5	Staurosporine
AMPK $\alpha$ 1/ $\beta$ 1/ $\gamma$ 1	MSA	SAMS peptide	1000	130	1000	Mg	5	Staurosporine
ARG	MSA	ABLTide	1000	24	1000	Mg	5	Staurosporine
AurA	MSA	Kemptide	1000	27	1000	Mg	5	Staurosporine
AurB/INCENP	MSA	Kemptide	1000	16	1000	Mg	5	Staurosporine
AurC	MSA	Kemptide	1000	24	1000	Mg	5	Staurosporine
AXL	MSA	CSKtide	1000	32	1000	Mg	5	Staurosporine
BLK	MSA	Srctide	1000	62	1000	Mg	5	Staurosporine
BMX	MSA	Srctide	1000	75	1000	Mg	5	Staurosporine
BRK <sup>1)</sup>	MSA	Blk/Lyntide	1000	250	1000	Mg	5	Staurosporine
BRSK1	MSA	CHKtide	1000	30	1000	Mg	5	Staurosporine
BTK	MSA	Srctide	1000	22	1000	Mg	5	Staurosporine
BTK[C481S]	MSA	Srctide	1000	27	1000	Mg	5	Staurosporine
CaMK4 <sup>3)</sup>	MSA	GS peptide	1000	20	1000	Mg	5	Staurosporine
CDC2/CycB1	MSA	Modified Histone H1	1000	34	1000	Mg	5	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu$ M)		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
CDC7/ASK <sup>1)</sup>	MSA	MCM2 peptide	1000	2.8	1000	Mg	10	Staurosporine
CDK2/CycA2	MSA	Modified Histone H1	1000	27	1000	Mg	5	Staurosporine
CDK2/CycE1	MSA	Modified Histone H1	1000	130	1000	Mg	5	Staurosporine
CDK4/CycD3 <sup>1)</sup>	MSA	DYRKtide-F	1000	200	1000	Mg	5	Staurosporine
CDK5/p25	MSA	Modified Histone H1	1000	10	1000	Mg	5	Staurosporine
CDK6/CycD3 <sup>1)</sup>	MSA	DYRKtide-F	1000	330	1000	Mg	5	Staurosporine
CDK7/CycH/MAT1 <sup>1)</sup>	MSA	CTD3 peptide	1000	32	1000	Mg	5	Staurosporine
CDK9/CycT1 <sup>1)</sup>	MSA	CDK9 substrate	1000	9.4	1000	Mg	5	Staurosporine
CHK1	MSA	CHKtide	1000	50	1000	Mg	5	Staurosporine
CHK2	MSA	CHKtide	1000	51	1000	Mg	5	Staurosporine
CK1 $\alpha$ <sup>1)</sup>	MSA	CKtide	1000	4.1	1000	Mg	5	5-Iodotubercidin
CK1 $\epsilon$ <sup>1)</sup>	MSA	CKtide	1000	16	1000	Mg	5	5-Iodotubercidin
CK2 $\alpha$ 1/ $\beta$	MSA	CK2tide	1000	2.9	1000	Mg	5	TBB
CLK1	MSA	DYRKtide-F	1000	11	1000	Mg	5	Staurosporine
CLK2	MSA	DYRKtide-F	1000	140	1000	Mg	5	Staurosporine
CSK <sup>1)</sup>	MSA	Srctide	1000	4.8	1000	Mg+Mn	5+1	Staurosporine
DAPK1	MSA	DAPK1tide	1000	1.1	1000	Mg	5	Staurosporine
DDR1 <sup>1)</sup>	MSA	IRS1	1000	94	1000	Mg	5	Staurosporine
DDR2 <sup>1)</sup>	MSA	IRS1	1000	38	1000	Mg	5	Staurosporine
DYRK1A	MSA	DYRKtide-F	1000	16	1000	Mg	5	Staurosporine
DYRK1B	MSA	DYRKtide-F	1000	59	1000	Mg	5	Staurosporine
EGFR	MSA	Srctide	1000	2.7	1000	Mg+Mn	5+1	Staurosporine
EGFR[d746-750/T790M]	MSA	Srctide	1000	5.4	1000	Mg+Mn	5+1	Staurosporine
EGFR[d746-750]	MSA	Srctide	1000	19	1000	Mg+Mn	5+1	Staurosporine
EGFR[L858R]	MSA	Srctide	1000	9.8	1000	Mg+Mn	5+1	Staurosporine
EGFR[L861Q]	MSA	Srctide	1000	7.5	1000	Mg+Mn	5+1	Staurosporine
EGFR[T790M/L858R]	MSA	Srctide	1000	1.9	1000	Mg+Mn	5+1	Staurosporine
EGFR[T790M]	MSA	Srctide	1000	0.9	1000	Mg+Mn	5+1	Staurosporine
EPHA1	MSA	Blk/Lyntide	1000	22	1000	Mg	5	Staurosporine
EPHA2	MSA	Blk/Lyntide	1000	67	1000	Mg	5	Staurosporine
EPHA3	MSA	Blk/Lyntide	1000	170	1000	Mg	5	Staurosporine
EPHA4	MSA	Blk/Lyntide	1000	52	1000	Mg	5	Staurosporine
EPHA5	MSA	Blk/Lyntide	1000	56	1000	Mg	5	Staurosporine
EPHA6	MSA	Blk/Lyntide	1000	27	1000	Mg	5	Staurosporine
EPHA7	MSA	Blk/Lyntide	1000	58	1000	Mg	5	Staurosporine
EPHA8	MSA	Blk/Lyntide	1000	69	1000	Mg	5	Staurosporine
EPHB1	MSA	Blk/Lyntide	1000	29	1000	Mg	5	Staurosporine
EPHB2	MSA	Blk/Lyntide	1000	86	1000	Mg	5	Staurosporine
EPHB3	MSA	Blk/Lyntide	1000	49	1000	Mg	5	Staurosporine
EPHB4	MSA	Blk/Lyntide	1000	56	1000	Mg	5	Staurosporine
Erk1	MSA	Modified Erktide	1000	34	1000	Mg	5	5-Iodotubercidin
Erk2	MSA	Modified Erktide	1000	33	1000	Mg	5	5-Iodotubercidin
FAK <sup>1)</sup>	MSA	Blk/Lyntide	1000	25	1000	Mg	5	Staurosporine
FER	MSA	Srctide	1000	26	1000	Mg	5	Staurosporine
FES	MSA	Srctide	1000	43	1000	Mg	5	Staurosporine
FGFR1	MSA	CSKtide	1000	89	1000	Mg	5	Staurosporine
FGFR1[V561M]	MSA	CSKtide	1000	33	1000	Mg	5	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
FGFR2	MSA	CSKtide	1000	66	1000	Mg	5	Staurosporine
FGFR2 [V564I]	MSA	CSKtide	1000	21	1000	Mg	5	Staurosporine
FGFR3	MSA	CSKtide	1000	43	1000	Mg	5	Staurosporine
FGFR3[K650E]	MSA	CSKtide	1000	41	1000	Mg	5	Staurosporine
FGFR3[K650M]	MSA	CSKtide	1000	17	1000	Mg	5	Staurosporine
FGFR3 [V555L]	MSA	CSKtide	1000	29	1000	Mg	5	Staurosporine
FGFR3 [V555M]	MSA	CSKtide	1000	37	1000	Mg	5	Staurosporine
FGFR4	MSA	CSKtide	1000	230	1000	Mg	5	Staurosporine
FGFR4[N535K]	MSA	CSKtide	1000	30	1000	Mg	5	Staurosporine
FGFR4[V550E]	MSA	CSKtide	1000	210	1000	Mg	5	Staurosporine
FGFR4[V550L]	MSA	CSKtide	1000	160	1000	Mg	5	Staurosporine
FGR	MSA	Srctide	1000	34	1000	Mg	5	Staurosporine
FLT1	MSA	CSKtide	1000	140	1000	Mg	5	Staurosporine
FLT3	MSA	Srctide	1000	94	1000	Mg	5	Staurosporine
FLT4	MSA	CSKtide	1000	72	1000	Mg	5	Staurosporine
FMS	MSA	Srctide	1000	26	1000	Mg	5	Staurosporine
FRK	MSA	Srctide	1000	62	1000	Mg	5	Staurosporine
FYN[isoform a]	MSA	Srctide	1000	36	1000	Mg	5	Staurosporine
FYN[isoform b]	MSA	Srctide	1000	20	1000	Mg	5	Staurosporine
GSK3 $\alpha$	MSA	CREBtide-p	1000	12	1000	Mg	5	Staurosporine
GSK3 $\beta$	MSA	CREBtide-p	1000	9.1	1000	Mg	5	Staurosporine
HCK	MSA	Srctide	1000	11	1000	Mg	5	Staurosporine
HER2	MSA	Srctide	1000	3.5	1000	Mn	5	Staurosporine
HER4	MSA	Srctide	1000	27	1000	Mg	5	Staurosporine
HGK	MSA	Moesin-derived peptide	1000	9.4	1000	Mg	5	Staurosporine
HIPK4	MSA	DYRKtide-F	1000	7.0	1000	Mg	5	Staurosporine
IGF1R	MSA	IRS1	1000	63	1000	Mg	5	Staurosporine
IKK $\beta$	MSA	Modified I $\kappa$ B $\alpha$ -derived peptide	1000	16	1000	Mg	5	Staurosporine
INSR	MSA	IRS1	1000	58	1000	Mg	5	Staurosporine
IRR	MSA	IRS1	1000	64	1000	Mg	5	Staurosporine
ITK	MSA	Srctide	1000	6.1	1000	Mg	5	Staurosporine
JAK1 <sup>16)</sup>	MSA	JAK1 substrate peptide	1000	68	1000	Mg	5	Staurosporine
JAK2	MSA	Srctide	1000	13	1000	Mg	5	Staurosporine
JAK3	MSA	Srctide	1000	3.5	1000	Mg	5	Staurosporine
JNK1	MSA	Modified Erktide	1000	29	1000	Mg	5	JNK Inhibitor II
JNK2	MSA	Modified Erktide	1000	21	1000	Mg	5	JNK Inhibitor II
JNK3	MSA	Modified Erktide	1000	6.0	1000	Mg	5	JNK Inhibitor II
KDR	MSA	CSKtide	1000	74	1000	Mg	5	Staurosporine
KIT[D816E] <sup>6)</sup>	MSA	Srctide	1000	40	1000	Mg	5	Staurosporine
KIT[D816V] <sup>6)</sup>	MSA	Srctide	1000	14	1000	Mg	5	Staurosporine
KIT[D816Y] <sup>6)</sup>	MSA	Srctide	1000	22	1000	Mg	5	Staurosporine
KIT[T670I] <sup>6)</sup>	MSA	Srctide	1000	100	1000	Mg	5	Staurosporine
KIT[V560G] <sup>6)</sup>	MSA	Srctide	1000	110	1000	Mg	5	Staurosporine
KIT[V654A] <sup>6)</sup>	MSA	Srctide	1000	220	1000	Mg	5	Staurosporine
KIT <sup>6)</sup>	MSA	Srctide	1000	370	1000	Mg	5	Staurosporine
LCK	MSA	Srctide	1000	14	1000	Mg	5	Staurosporine
LTK	MSA	Srctide	1000	49	1000	Mg	5	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu$ M)		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
LYNa	MSA	Srctide	1000	14	1000	Mg	5	Staurosporine
LYNb	MSA	Srctide	1000	18	1000	Mg	5	Staurosporine
MAPKAPK2	MSA	GS peptide	1000	3.6	1000	Mg	5	Staurosporine
MER	MSA	CSKtide	1000	36	1000	Mg	5	Staurosporine
MET	MSA	Srctide	1000	27	1000	Mg	5	Staurosporine
MET[D1228H]	MSA	Srctide	1000	25	1000	Mg	5	Staurosporine
MET[M1250T]	MSA	Srctide	1000	17	1000	Mg	5	Staurosporine
MET[Y1235D]	MSA	Srctide	1000	71	1000	Mg	5	Staurosporine
MINK <sup>1)</sup>	MSA	Modified Erktide	1000	16	1000	Mg	5	K252b
MST1 <sup>1)10)</sup>	MSA	IRS1	1000	50	1000	Mg	5	Staurosporine
MUSK <sup>1)</sup>	MSA	CSKtide	1000	14	1000	Mg+Mn	5+1	Staurosporine
NEK1 <sup>1)</sup>	MSA	CDK7 peptide	1000	64	1000	Mg	5	Staurosporine
NEK2	MSA	CDK7 peptide	1000	65	1000	Mg	5	Staurosporine
NEK6 <sup>1)</sup>	MSA	CDK7 peptide	1000	69	1000	Mg	5	PKR Inhibitor
NEK7 <sup>1)</sup>	MSA	CDK7 peptide	1000	40	1000	Mg	5	PKR Inhibitor
NEK9 <sup>1)</sup>	MSA	CDK7 peptide	1000	190	1000	Mg	5	Staurosporine
p38 $\alpha$	MSA	Modified Erktide	1000	150	1000	Mg	5	SB202190
p38 $\beta$	MSA	Modified Erktide	1000	63	1000	Mg	5	SB202190
p38 $\gamma$	MSA	Modified Erktide	1000	13	1000	Mg	5	Staurosporine
p38 $\delta$	MSA	Modified Erktide	1000	5.8	1000	Mg	5	Staurosporine
p70S6K	MSA	S6k2 peptide	1000	14	1000	Mg	5	Staurosporine
PAK2	MSA	DAPK1tide	1000	81	1000	Mg	5	Staurosporine
PBK <sup>1)</sup>	MSA	Histone H3 peptide	1000	33	1000	Mg	5	Staurosporine
PDGFR $\alpha$	MSA	CSKtide	1000	28	1000	Mg	5	Staurosporine
PDGFR $\alpha$ [D842V]	MSA	CSKtide	1000	21	1000	Mg	5	Staurosporine
PDGFR $\alpha$ [T674I] <sup>1)</sup>	MSA	CSKtide	1000	11	1000	Mg	5	Staurosporine
PDGFR $\alpha$ [V561D]	MSA	CSKtide	1000	35	1000	Mg	5	Staurosporine
PDGFR $\beta$	MSA	CSKtide	1000	23	1000	Mg	5	Staurosporine
PDK1 <sup>1)8)</sup>	MSA	T308tide	1000	9.6	1000	Mg	5	Staurosporine
PIM1	MSA	S6k2 peptide	1000	640	1000	Mg	5	Staurosporine
PIM2 <sup>1)</sup>	MSA	S6k2 peptide	1000	4.0	1000	Mg	5	Staurosporine
PKAC $\alpha$	MSA	Kemptide	1000	2.6	1000	Mg	5	Staurosporine
PKC $\alpha$ <sup>5)</sup>	MSA	PKC peptide	1000	36	1000	Mg+Ca	5+0.05	Staurosporine
PKC $\epsilon$ <sup>5)</sup>	MSA	PKC peptide	1000	16	1000	Mg	5	Staurosporine
PKD2	MSA	GS peptide	1000	26	1000	Mg	5	Staurosporine
PLK1 <sup>1)</sup>	MSA	CDC25ctide	1000	5.6	1000	Mg	5	Staurosporine
PLK3	MSA	CDC25ctide	1000	6.8	1000	Mg	5	K252b
PYK2	MSA	Blk/Lyntide	1000	56	1000	Mg	5	Staurosporine
QIK	MSA	AMARA peptide	1000	42	1000	Mg	5	Staurosporine
RET	MSA	CSKtide	1000	7.5	1000	Mg	5	Staurosporine
RET[G691S]	MSA	CSKtide	1000	13	1000	Mg	5	Staurosporine
RET[M918T]	MSA	CSKtide	1000	4.2	1000	Mg	5	Staurosporine
RET[S891A]	MSA	CSKtide	1000	11	1000	Mg	5	Staurosporine
RET[Y791F]	MSA	CSKtide	1000	29	1000	Mg	5	Staurosporine
ROCK1	MSA	LIMKtide	1000	3.1	1000	Mg	5	Staurosporine
RON	MSA	Srctide	1000	27	1000	Mg	5	Staurosporine
ROS	MSA	IRS1	1000	37	1000	Mg	5	Staurosporine
RSK1	MSA	S6K peptide (N-FL)	1000	21	1000	Mg	5	Staurosporine

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
RSK3	MSA	S6K peptide (N-FL)	1000	9.9	1000	Mg	5	Staurosporine
RSK4	MSA	S6K peptide (N-FL)	1000	20	1000	Mg	5	Staurosporine
SGK	MSA	SGKtide	1000	52	1000	Mg	5	Staurosporine
SIK(SNF1LK) <sup>1)</sup>	MSA	AMARA peptide	1000	47	1000	Mg	5	Staurosporine
SRC	MSA	Srctide	1000	31	1000	Mg	5	Staurosporine
SRM	MSA	Blk/Lyntide	1000	38	1000	Mg	5	Staurosporine
SYK	MSA	Blk/Lyntide	1000	26	1000	Mg	5	Staurosporine
TEC	MSA	Srctide	1000	55	1000	Mg	5	Staurosporine
TIE2	MSA	Blk/Lyntide	1000	94	1000	Mg	5	Staurosporine
TNIK	MSA	Moesin-derived peptide	1000	16	1000	Mg	5	Staurosporine
TNK1 <sup>1)</sup>	MSA	CSKtide	1000	71	1000	Mg	5	Staurosporine
TRKA	MSA	CSKtide	1000	65	1000	Mg	5	Staurosporine
TRKB	MSA	Srctide	1000	80	1000	Mg	5	Staurosporine
TRKC	MSA	Srctide	1000	47	1000	Mg	5	Staurosporine
TSSK1	MSA	GS peptide	1000	11	1000	Mg	5	Staurosporine
TXK <sup>1)</sup>	MSA	Srctide	1000	110	1000	Mg	5	Staurosporine
TYK2 <sup>1)</sup>	MSA	Srctide	1000	18	1000	Mg	5	Staurosporine
TYRO3	MSA	CSKtide	1000	80	1000	Mg	5	Staurosporine
YES	MSA	Srctide	1000	13	1000	Mg	5	Staurosporine
YES(YES1)[T348I]	MSA	Srctide	1000	8.5	1000	Mg	5	Staurosporine
ZAP70	MSA	Blk/Lyntide	1000	3.3	1000	Mg+Mn	5+1	Staurosporine

- 1) Reaction time is 5 hours.
- 2) Reaction time is 30 minutes.
- 3)  $\text{CaCl}_2$ , Calmodulin are added at the final concentration of 1 mM and 10  $\mu\text{g/ml}$ , respectively.
- 4) cGMP is added at the final concentration of 5  $\mu\text{M}$ .
- 5) Phosphatidylserine and Diacyl Glycerol are added at the final concentration of 50  $\mu\text{g/mL}$  and 5  $\mu\text{g/mL}$ , respectively.
- 6) Sodium orthovanadate is added at the final concentration of 25  $\mu\text{M}$ .
- 7) Cantharidin is added at the final concentration of 10  $\mu\text{M}$ .
- 8) PIFtide and Cantharidin are added at the final concentration of 2  $\mu\text{M}$  and 20  $\mu\text{M}$ , respectively.
- 9) TPX2 peptide is added at the final concentration of 200 nM.
- 10) Cantharidin is added at the final concentration of 20  $\mu\text{M}$ .

### Cascade assay

Kinase	Platform	Substrate		ATP ( $\mu\text{M}$ )		Metal		Positive control
		Name	(nM)	Km	Assay	Name	(mM)	
BRAF	MSA	MAP2K1	1	-	1000	Mg	5	ZM336372
BRAF [V600E]	MSA	MAP2K1	1	-	1000	Mg	5	ZM336372
COT(MAP3K8)	MSA	MAP2K1	1	-	1000	Mg	5	Staurosporine
DLK(MAP3K12) <sup>1)</sup>	MSA	MAP2K4/MAP2K7	0.5/0.5	-	1000	Mg	5	Staurosporine
MAP2K1	MSA	Erk2	2.5	-	1000	Mg	5	Staurosporine
MAP2K2	MSA	Erk2	2.5	-	1000	Mg	5	Staurosporine
MAP2K3	MSA	p38a	10	-	1000	Mg	5	Staurosporine
MAP2K4 <sup>1)</sup>	MSA	JNK2	50	-	1000	Mg	5	Staurosporine
MAP2K5 <sup>1)</sup>	MSA	Erk5	50	-	1000	Mg	5	Staurosporine
MAP2K6	MSA	p38a	10	-	1000	Mg	5	Staurosporine
MAP2K7 <sup>1)</sup>	MSA	JNK2	50	-	1000	Mg	5	Staurosporine
MAP3K1	MSA	MAP2K1	1	-	1000	Mg	5	Staurosporine
MAP3K2 <sup>1)</sup>	MSA	MAP2K4/MAP2K7	0.5/0.5	-	1000	Mg	5	Staurosporine
MAP3K3	MSA	MAP2K6	1	-	1000	Mg	5	Staurosporine
MAP3K4	MSA	MAP2K6	1	-	1000	Mg	5	Staurosporine
MAP3K5	MSA	MAP2K6	1	-	1000	Mg	5	Staurosporine
MLK1(MAP3K9)	MSA	MAP2K1	1	-	1000	Mg	5	Staurosporine
MLK2(MAP3K10)	MSA	MAP2K1	1	-	1000	Mg	5	Staurosporine
MLK3(MAP3K11)	MSA	MAP2K1	1	-	1000	Mg	5	Staurosporine
MOS	MSA	MAP2K1	1	-	1000	Mg	5	Staurosporine
RAF1	MSA	MAP2K1	1	-	1000	Mg	5	ZM336372
TAK1-TAB1(MAP3K7) <sup>1)</sup>	MSA	MAP2K4/MAP2K7	0.5/0.5	-	1000	Mg	5	Staurosporine

1) Reaction time is 5 hours.

### Substrate information of cascade assay

Kinase	Substrate					
	MAP2K	(nM)	MAPK	(nM)	peptide	(nM)
BRAF	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
BRAF [V600E]	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
COT(MAP3K8)	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
DLK(MAP3K12)	[MAP2K4/MAP2K7]	0.5/0.5	JNK2	50	Modified Erktide	1000
MAP2K1	-	-	Erk2	2.5	Modified Erktide	1000
MAP2K2	-	-	Erk2	2.5	Modified Erktide	1000
MAP2K3	-	-	p38 $\alpha$	10	Modified Erktide	1000
MAP2K4	-	-	JNK2	50	Modified Erktide	1000
MAP2K5	-	-	Erk5	50	EGFR-derived peptide	1000
MAP2K6	-	-	p38 $\alpha$	10	Modified Erktide	1000
MAP2K7	-	-	JNK2	50	Modified Erktide	1000
MAP3K1	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
MAP3K2	[MAP2K4/MAP2K7]	0.5/0.5	JNK2	50	Modified Erktide	1000
MAP3K3	MAP2K6	1	p38 $\alpha$	10	Modified Erktide	1000
MAP3K4	MAP2K6	1	p38 $\alpha$	10	Modified Erktide	1000
MAP3K5	MAP2K6	1	p38 $\alpha$	10	Modified Erktide	1000
MLK1(MAP3K9)	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
MLK2(MAP3K10)	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
MLK3(MAP3K11)	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
MOS	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
RAF1	MAP2K1	1	Erk2	2.5	Modified Erktide	1000
TAK1-TAB1(MAP3K7)	[MAP2K4/MAP2K7]	0.5/0.5	JNK2	50	Modified Erktide	1000

### Data analysis

The readout value of reaction control (complete reaction mixture) is set as a 0% inhibition, and the readout value of background (Enzyme(-)) is set as a 100% inhibition, then the percent inhibition of each test solution is calculated.

IC<sub>50</sub> value is calculated from concentration vs. %Inhibition curves by fitting to a four parameter logistic curve.