

Protein Kinases from Carna Biosciences, Inc.

(Please see Serine/Threonine Kinases on reverse side)

Cytoplasmic Tyrosine Kinases

| | Protein | Profiling |
|--------------|---------|-----------|
| ABL | ● | ● |
| ABL[E255K] | ● | ● |
| ABL[T315I] | ● | ● |
| ACK | ● | ● |
| ARG | ● | ● |
| BLK | ● | ● |
| BMX | ● | ● |
| BRK | ● | ● |
| BTK | ● | ● |
| CSK | ● | ● |
| CTK | ● | ● |
| FAK | ● | ● |
| FER | ● | ● |
| FES | ● | ● |
| FGR | ● | ● |
| FRK | ● | ● |
| FYN | ● | ● |
| HCK | ● | ● |
| ITK | ● | ● |
| JAK1 | ● | ● |
| JAK2 | ● | ● |
| JAK3 | ● | ● |
| LCK | ● | ● |
| LYN α | ● | ● |
| LYN β | ● | ● |
| PYK2 | ● | ● |
| SRC | ● | ● |
| SRM | ● | ● |
| SYK | ● | ● |
| TEC | ● | ● |
| TNK1 | ● | ● |
| TXK | ● | ● |
| TYK2 | ● | ● |
| YES | ● | ● |
| ZAP70 | ● | ● |

Receptor Tyrosine Kinases

| | Protein | Profiling |
|-------------------------|---------|-----------|
| ALK | ● | ● |
| ALK[F1174L] | ● | ● |
| ALK[R1275Q] | ● | ● |
| EML4-ALK | ● | ● |
| NPM1-ALK | ● | ● |
| AXL | ● | ● |
| DDR1 | ● | ● |
| DDR2 | ● | ● |
| EGFR | ● | ● |
| EGFR[L858R] | ● | ● |
| EGFR[L861Q] | ● | ● |
| EGFR[T790M] | ● | ● |
| EGFR[T790M/L858R] | ● | ● |
| EphA1 | ● | ● |
| EphA2 | ● | ● |
| EphA3 | ● | ● |
| EphA4 | ● | ● |
| EphA5 | ● | ● |
| EphA6 | ● | ● |
| EphA7 | ● | ● |
| EphA8 | ● | ● |
| EphB1 | ● | ● |
| EphB2 | ● | ● |
| EphB3 | ● | ● |
| EphB4 | ● | ● |
| FGFR1 | ● | ● |
| FGFR2 | ● | ● |
| FGFR3 | ● | ● |
| FGFR3[K650E] | ● | ● |
| FGFR3[K650M] | ● | ● |
| FGFR4 | ● | ● |
| NEW FGFR4[N535K] | ● | ▲ |
| NEW FGFR4[V550E] | ● | ▲ |
| FLT1 | ● | ● |
| FLT3 | ● | ● |
| FLT4 | ● | ● |

| | Protein | Profiling |
|------------------------|---------|-----------|
| FMS | ● | ● |
| HER2 | ● | ● |
| HER4 | ● | ● |
| IGF1R | ● | ● |
| INSR | ● | ● |
| IRR | ● | ● |
| KDR | ● | ● |
| KIT | ● | ● |
| KIT[D816V] | ● | ● |
| KIT[T670I] | ● | ● |
| KIT[V560G] | ● | ● |
| KIT[V654A] | ▲ | ● |
| LTK | ● | ● |
| MER | ● | ● |
| MET | ● | ● |
| MET[Y1235D] | ● | ● |
| MUSK | ● | ● |
| PDGFR α | ● | ● |
| PDGFR α [T674I] | ● | ● |
| PDGFR α [V561D] | ● | ● |
| PDGFR β | ● | ● |
| RET | ● | ● |
| RET[G691S] | ● | ● |
| RET[M918T] | ● | ● |
| RET[S891A] | ● | ● |
| RET[Y791F] | ● | ● |
| RON | ● | ● |
| ROR1 | ● | ▲ |
| ROR2 | ● | ▲ |
| ROS | ● | ● |
| TIE2 | ● | ● |
| TRKA | ● | ● |
| TRKB | ● | ● |
| TRKC | ● | ● |
| TYRO3 | ● | ● |

The pack size is 5, 100, 200, 500, and 1000ug. The production for the bulk scale of amount is available upon an order

Inactive Kinases

| Protein | Protein | Profiling |
|--------------|---------|-----------|
| Erk2 | ● | 50ug/vial |
| Erk5 | ● | 50ug/vial |
| JNK1 | ● | 50ug/vial |
| MAP2K1 | ● | 50ug/vial |
| MAP2K6 | ● | 50ug/vial |
| MAP2K7 | ● | 50ug/vial |
| p38 α | ● | 50ug/vial |

Inactive Mutant Kinases

| Protein | Protein | Profiling |
|--------------|---------|-----------|
| Erk2 | ● | 50ug/vial |
| Erk5 | ● | 50ug/vial |
| JNK1 | ● | 50ug/vial |
| MAP2K1 | ● | 50ug/vial |
| MAP2K6 | ● | 50ug/vial |
| MAP2K7 | ● | 50ug/vial |
| p38 α | ● | 50ug/vial |

| Protein | |
|-----------|---|
| ● | Available |
| ● | Available as 5ug only |
| ▲ | Under development |
| □ | Specification change |
| Profiling | |
| ● | Available at [ATP] Km app. |
| ● | Available at both [ATP] Km app. and 1mM |
| ▲ | Under development |

The minimum pack size of inactive and inactive-mutant kinases is 50ug.

Lipid Kinases

| Protein | Protein | Profiling |
|---------------|---------|-----------|
| PIK3CA/PIK3R1 | ● | ● |
| PIK3CB/PIK3R1 | ● | ▲ |
| SPHK1 | ● | ● |
| SPHK2 | ● | ● |

The minimum pack size of lipid kinases is 5ug or 20ug.

| | Protein | Profiling (Km app.) | Profiling (1mM) |
|-------------------------------------|------------|---------------------|-----------------|
| Cytoplasmic Tyrosine Kinases | 32 | 35 | 34 |
| Receptor Tyrosine Kinases | 48 | 67 | 67 |
| Serine/Threonine Kinases | 252 | 199 | 52 |
| Lipid Kinases | 4 | 3 | 0 |
| TOTAL | 336 | 304 | 153 |

Updated: 2010/7/9

To learn more, please contact:



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- Please send a PO to **+81-78-302-7086 (FAX)**.



To inquire :
- Please E-mail to **info@carnabio.com**.

Note: Please contact us for availability or further information. Information may be changed without notice

Protein Kinases from Carna Biosciences, Inc.

Serine/Threonine Kinases

| Protein | | Profiling | Protein | | Profiling | Protein | | Profiling |
|---|---|-----------|--------------------------|---|-----------|-------------------------|---|-----------|
| ACTR2A | ● | ▲ | HIPK3 | ● | ● | PBK | ● | ● |
| ACVR2B | ● | ▲ | HIPK4 | ● | ● | PCTAIRE1 (PCK1) | ● | ▲ |
| AKT1 | ● | ● | ICK | ● | ▲ | PDK1 (PDPK1) | ▲ | ● |
| AKT2 | ● | ● | IKK α | ● | ● | PDHK1 (PDK1) | ● | ▲ |
| AKT3 | ● | ● | IKK β | ● | ● | PDHK2 (PDK2) | ● | ● |
| ALK2 (ACVR1) | ● | ▲ | IKK ϵ (IKBKE) | ● | ● | PDHK3 (PDK3) | ● | ▲ |
| ALK4 (ACVR1B) | ● | ▲ | IRAK1 | ● | ● | PDHK4 (PDK4) | ● | ● |
| AMPK α 1/ β 1/ γ 1 (PRKAA1/B1/G1) | ● | ● | IRAK4 | ● | ● | PEK (EIF2AK3) | ● | ● |
| AMPK α 2/ β 1/ γ 1 (PRKAA2/B1/G1) | ● | ● | JNK1 (MAPK8) | ● | ● | PGK (PRKG1) | ● | ● |
| AurA | ● | ● | JNK2 (MAPK9) | ● | ● | PHKG1 | ● | ● |
| AurA(AURKA)/TPX2 | ▲ | ● | JNK3 (MAPK10) | ● | ● | PHKG2 | ● | ● |
| AurB (AURKB)/INCENP | ● | ● | LATS1 | ● | ▲ | PIM1 | ● | ● |
| AurC (AURKC) | ● | ● | LATS2 | ● | ● | PIM2 | ● | ● |
| BARK1 (ADRBK1) | ● | ▲ | LIMK1 | ● | ● | PIM3 | ● | ● |
| BARK2 (ADRBK2) | ● | ▲ | LIMK2 | ● | ▲ | PKA α | ● | ● |
| BMPR1A (ALK3) | ● | ● | LKB1 | ● | ● | PKAC β | ● | ● |
| BMPR1B | ● | ▲ | LOK | ● | ● | PKAC γ | ● | ● |
| BMPR2 | ● | ▲ | LRRK2 | ● | ▲ | PKC α (PRKCA) | ● | ● |
| BRAF | ● | ● | LRRK2[G2019S] | ● | ▲ | PKC β 1 (PRKCB1) | ● | ● |
| BRAF[V600E] | ● | ● | LZK(MAP3K13) | ● | ▲ | PKC β 2 (PRKCB2) | ● | ● |
| BRSK1 | ● | ● | MAP2K1 | ● | ● | PKC γ (PRKCG) | ● | ● |
| BRSK2 | ● | ● | MAP2K2 | ● | ● | PKC δ (PRKCD) | ● | ● |
| BUBR1 (BUB1B) | ● | ▲ | MAP2K3 | ● | ● | PKC ϵ (PRKCE) | ● | ● |
| CAMKK1 | ● | ▲ | MAP2K4 | ● | ● | PKC ζ (PRKCZ) | ● | ● |
| CAMKK2 | ● | ▲ | MAP2K5 | ● | ● | PKC η (PRKCH) | ● | ● |
| CaMK1 α | ● | ● | MAP2K6 | ● | ● | PKC θ (PRKCQ) | ● | ● |
| CaMK1 β | ● | ▲ | MAP2K7 | ● | ● | PKC ι (PRKCI) | ● | ● |
| CaMK1 δ | ● | ● | MAP3K1 | ● | ● | PKD1 (PRKD1) | ● | ● |
| CaMK2 α | ● | ● | MAP3K2 | ● | ● | PKD2 (PRKD2) | ● | ● |
| CaMK2 β | ● | ● | MAP3K3 | ● | ● | PKD3 (PRKD3) | ● | ● |
| CaMK2 δ | ● | ● | MAP3K4 | ● | ● | PKN1 | ● | ● |
| CaMK2 γ | ● | ● | MAP3K5 | ● | ● | PKN2 | ● | ▲ |
| CaMK4 | ● | ● | MAP3K14 | ● | ▲ | PKN3 | ● | ▲ |
| CDC2/CycB1 | ● | ● | MAP4K2 | ● | ▲ | PKR (EIF2AK2) | ● | ● |
| CDC7/ASK | ● | ● | MAPKAPK2 | ● | ● | PLK1 | ● | ● |
| CDK2/CycA2 | ● | ● | MAPKAPK3 | ● | ● | PLK2 | ● | ● |
| CDK2/CycE1 | ● | ● | MAPKAPK5 | ● | ● | PLK3 | ● | ● |
| CDK3/CycE1 | ● | ● | MARK1 | ● | ● | PLK4 | ● | ● |
| CDK4/CycD3 | ● | ● | MARK2 | ● | ● | PRKX | ● | ● |
| CDK5/p25 | ● | ● | MARK3 | ● | ● | QIK (SNF1LK2) | ● | ● |
| CDK6/CycD3 | ● | ● | MARK4 | ● | ● | RAF1 | ● | ● |
| CDK7/CycH/MAT1 | ● | ● | MELK | ● | ● | RIPK2 | ● | ▲ |
| CDK8/CycC | ● | ▲ | MGC42105 | ● | ● | ROCK1 | ● | ● |
| CDK9/CycT1 | ● | ● | MINK (MINK1) | ● | ● | ROCK2 | ● | ● |
| CDK11(CDC2L6)/CycC | ● | ▲ | MLK1 (MAP3K9) | ● | ● | RSK1 (RPS6KA1) | ● | ● |
| CGK2 (PRKG2) | ● | ● | MLK2 (MAP3K10) | ● | ● | RSK2 (RPS6KA2) | ● | ● |
| CHK1 | ● | ● | MLK3 (MAP3K11) | ● | ● | RSK3 (RPS6KA3) | ● | ● |
| CHK2 | ● | ● | MNK1 (MKNK1) | ● | ● | RSK4 (RPS6KA6) | ● | ● |
| CK1 α (CSNK1A1) | ● | ● | MNK2 (MKNK2) | ● | ● | SGK | ● | ● |
| CK1 δ | ● | ● | MOS | ● | ● | SGK2 | ● | ● |
| CK1 ϵ (CSNK1E) | ● | ● | MRCK α (CDC42BPA) | ● | ● | SGK3 | ● | ● |
| CK1 γ 1 (CSNK1G1) | ● | ● | MRCK β (CDC42BPB) | ● | ● | SIK(SNF1LK) | ● | ● |
| CK1 γ 2 (CSNK1G2) | ● | ● | MSK1 (RPS6KA5) | ● | ● | skMLCK (MYLK2) | ● | ● |
| CK1 γ 3 (CSNK1G3) | ● | ● | MSK2 (RPS6KA4) | ● | ● | smMLCK (MYLK) | ● | ▲ |
| CK2 α 1/ β (CSNK2A1/B) | ● | ● | MSSK1 (STK23) | ● | ● | SLK | ● | ● |
| CK2 α 2/ β (CSNK2A2/B) | ● | ● | MST1 (STK4) | ● | ● | SRPK1 | ● | ● |
| CLK1 | ● | ● | MST2 (STK3) | ● | ● | SRPK2 | ● | ● |
| CLK2 | ● | ● | MST3 (STK24) | ● | ● | STLK3 (STK39) | ● | ▲ |
| CLK3 | ● | ● | MST4 | ● | ● | TAK1-TAB1 (MAP3K7) | ● | ● |
| CLK4 | ● | ▲ | MYT1 (PKMYT1) | ● | ▲ | TAOK2 | ● | ● |
| COT (MAP3K8) | ● | ● | NDR1 (STK38) | ● | ● | TAOK3 | ● | ▲ |
| CRIK | ● | ● | NDR2 (STK38L) | ● | ● | TBK1 | ● | ● |
| DAPK1 | ● | ● | NEK1 | ● | ● | TESK1 | ● | ▲ |
| DAPK3 | ● | ▲ | NEK2 | ● | ● | TGF β R1 (TGFBR1) | ● | ▲ |
| DCAMKL1 | ● | ▲ | NEK3 | ● | ▲ | TGF β R2 (TGFBR2) | ● | ▲ |
| DCAMKL2 | ● | ● | NEK4 | ● | ● | TNIK | ● | ▲ |
| DLK (MAP3K12) | ● | ● | NEK6 | ● | ● | TSSK1 | ● | ● |
| DMPK1 (DMPK) | ● | ▲ | NEK7 | ● | ● | TSSK2 | ● | ● |
| DRAK1 (STK17A) | ● | ▲ | NEK9 | ● | ● | TSSK3 | ● | ▲ |
| DYRK1A | ● | ● | NEK11 | ● | ▲ | TTBK1 | ● | ▲ |
| DYRK1B | ● | ● | NLK | ● | ▲ | TTBK2 | ● | ▲ |
| DYRK2 | ● | ● | NuaK1 | ● | ● | TLK1 | ● | ▲ |
| DYRK3 | ● | ● | NuaK2 | ● | ● | TLK2 | ● | ▲ |
| EEF2K | ● | ● | OSR1 (OXSR1) | ● | ▲ | TTK | ● | ● |
| Erk1 (MAPK3) | ● | ● | p38 α (MAPK14) | ● | ● | VRK1 | ● | ▲ |
| Erk2 (MAPK1) | ● | ● | p38 β (MAPK11) | ● | ● | VRK2 | ● | ▲ |
| Erk5 (MAPK7) | ● | ● | p38 γ (MAPK12) | ● | ● | WEE1 | ● | ● |
| Erk7 (MAPK15) | ● | ▲ | p38 δ (MAPK13) | ● | ● | WNK1 | ● | ● |
| GPRK4 (GRK4) | ● | ▲ | p70S6K | ● | ● | WNK2 | ● | ● |
| GPRK6 (GRK6) | ● | ▲ | p70S6K β | ● | ● | WNK3 | ● | ● |
| GPRK7 (GRK7) | ● | ▲ | PAK1 | ● | ● | WNK4 | ● | ▲ |
| GSK3 α | ● | ● | PAK2 | ● | ● | YSK1 | ● | ▲ |
| GSK3 β | ● | ● | PAK3 | ● | ● | ZAK | ● | ▲ |
| Haspin (GSG2) | ● | ● | PAK4 | ● | ● | | | |
| HGK (MAP4K4) | ● | ● | PAK5 | ● | ● | | | |
| HIPK1 | ● | ● | PAK6 | ● | ● | | | |
| HIPK2 | ● | ● | PASK | ● | ● | | | |

The pack size is 5, 100, 200, 500, and 1000ug. The production for the bulk scale of amount is available upon an order