

Financial Results

FY2018 Q2

(January to June 2018)

Carna Biosciences, Inc.



Stock Code : 4572

Company Overview



(As of June 30, 2018)

■ Company Name:	Carna Biosciences, Inc.
■ Representative:	Kohichiro Yoshino, President and CEO
■ Established:	April 10, 2003 (a spin-off from Nippon Organon)
■ IPO:	March 25, 2008 (JASDAQ NEO)
■ Listed Market:	Tokyo Stock Exchange JASDAQ Growth
■ Capital:	3,275 million yen
■ Number of shares issued:	9,622,600
■ Number of stockholders:	9,560
■ Management and employees:	70
■ Address:	BMA 3F 1-5-5 Minatojima-Minamimachi, Chuoku, Kobe (Kobe Biomedical Innovation Cluster on Kobe Port Island)
■ Auditor :	Deloitte Touche Tohmatsu LLC
■ Business :	Drug Discovery and Development business targeting kinases and Drug Discovery Support business



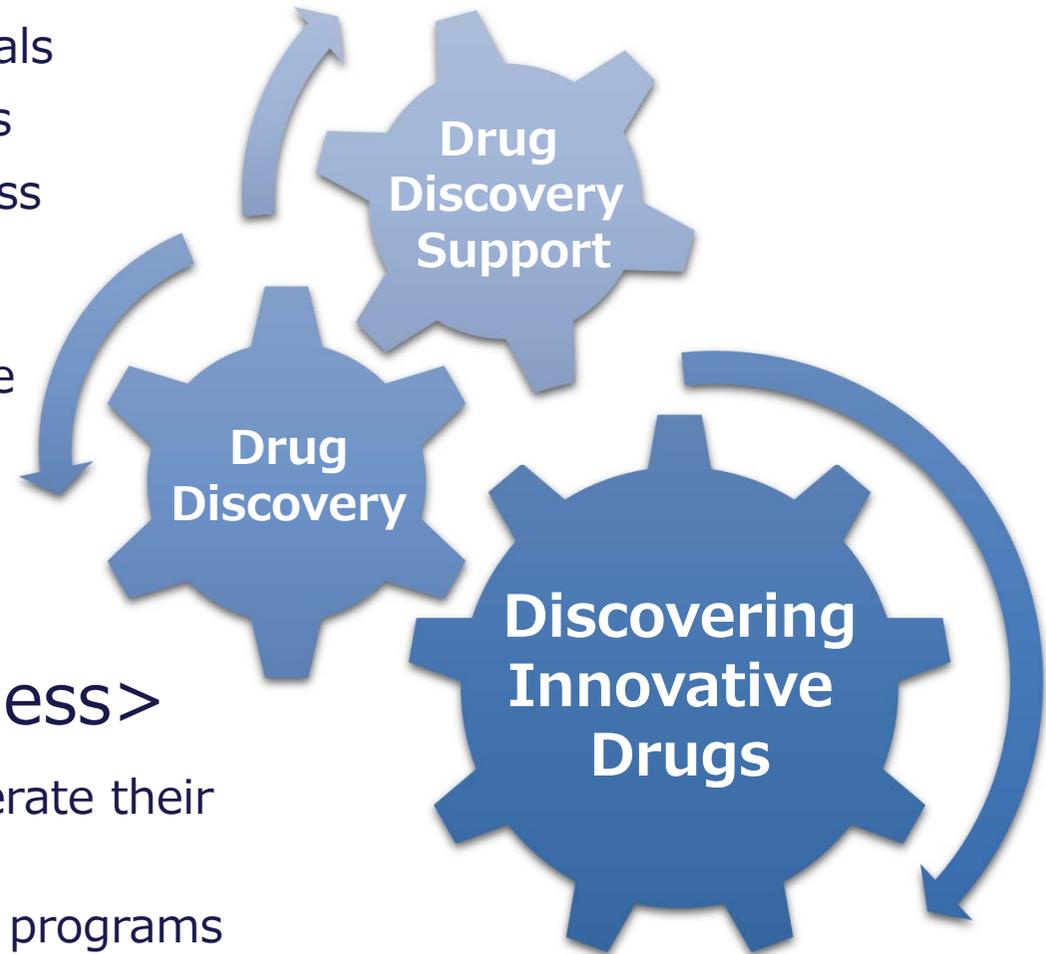
Business Support Center for Biomedical Research Activities in Kobe (BMA)

<Drug Discovery>

- Establish elite team with talented professionals
- Focus on oncology and autoimmune diseases
- Well-balanced pipeline consists of first-in-class and best-in-class programs
- Building clinical development capabilities to demonstrate clinical activity of our innovative therapy

<Drug Discovery Support Business>

- Support pharmaceutical companies to accelerate their kinase inhibitor drug discovery
- Secure funds to invest in our drug discovery programs



Drug Discovery Support Service

Stable earnings from service business

⇒ Our strength



Production and sales of kinase proteins



Assay development
Assay kits



Profiling and screening services

- Stable financial base
- Provide research tools



- New technology
- Recent drug discovery research trends

Drug Discovery and Development

Research and develop new drugs in-house

⇒ Strategic investment to achieve accelerated growth

**Internal R&D
Drug Discovery & Development
using proprietary kinase research platform**
focused on oncology and autoimmune diseases



Our commitment to quality

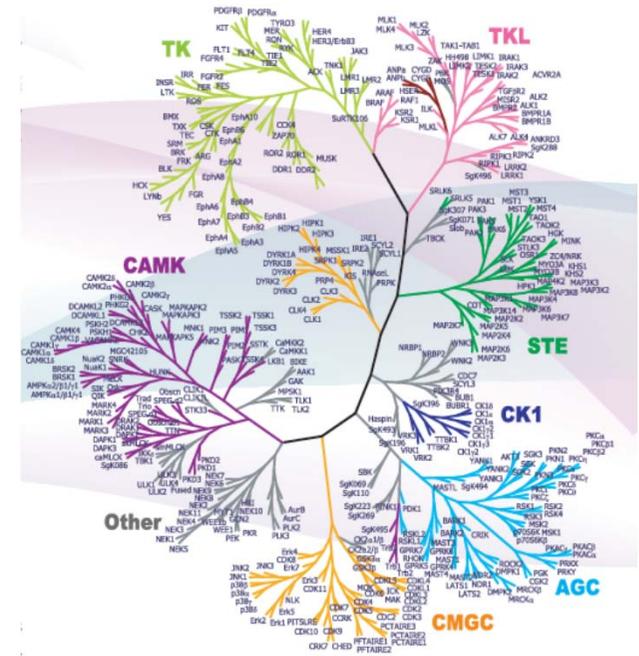


Drug Discovery Support Service

- ✓ Focus on quality (secure repeat customers)
- ✓ Unique products
- ✓ Play an important role in kinase inhibitor drug discovery conducted by global pharmaceutical companies



- ❑ High quality kinase proteins
 - ✓ Lineup of approximately 450 products that are crucial to drug discovery research
- ❑ Accurate profiling service
 - ✓ Profiling service against approximately 340 kinases that well cover kinases in a living organism
- ❑ Assay kits and assay development that satisfy customer needs
- ❑ Cell-based assay services that provide further support to customers
 - ✓ ACD's Tyrosine Kinase Cell-Based Assay
 - ✓ CAI's ClariCELL™ Kinase Cell-Based Assays
 - ✓ NTRC's Oncolines™, panel of cancer cell lines



Drug Discovery

- ✓ Develop innovative drug molecules from own research
- ✓ Proven track record in drug development including out-licensing of multiple programs
- ✓ Elite team with extensive experiences in large pharmas

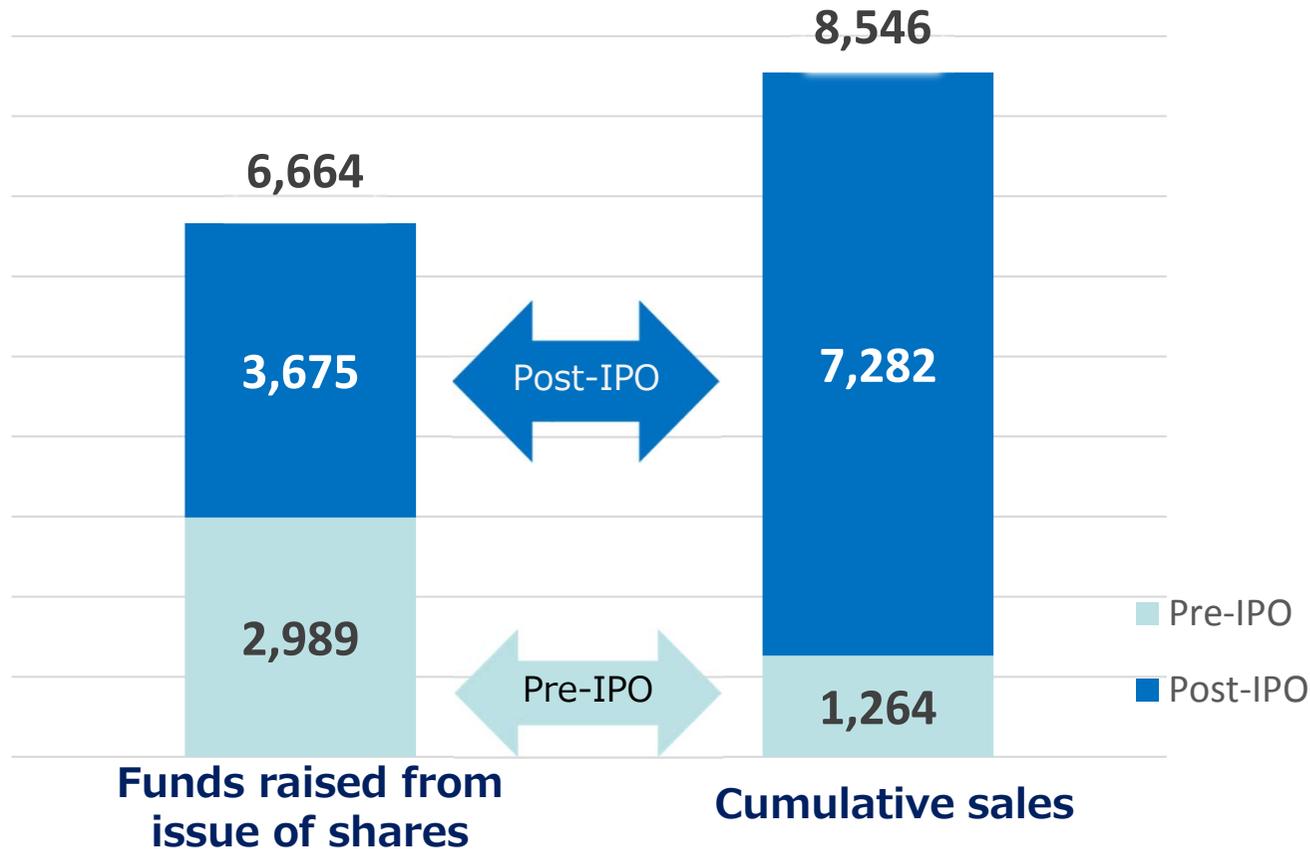


Advantage of Our Business Model: Reduced Investment Risk



- ✓ Funds raised from business > Funds raised from issue of shares

Cumulative total since the formation of the company till the end of 2017 (JPY mn)



	Pre-IPO	End of Dec. 2017	Increase
Outstanding shares (100 shares)	44,490	95,513	2.14 X

✓ Dilution has been controlled

- **National Cancer Center and Carna entered into a new research collaboration agreement for a novel drug target (May)**
- Evotec AG and Carna announced to collaborate on Evotec's INDiGO platform (May)
- A restricted stock compensation plan was introduced to strengthen incentives for directors and employees to raise corporate value (May)
- Carna absorbed ProbeX, a former consolidated subsidiary, to streamline its operations (May)
- **Establish the organization specializing in clinical development (July)**

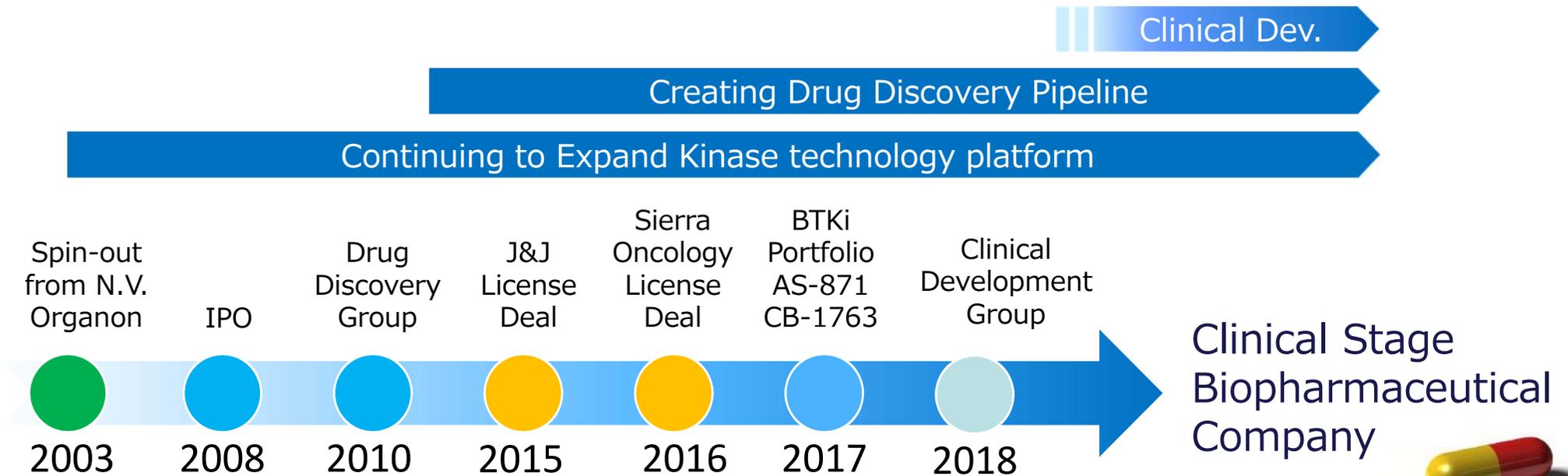
<Intellectual Property>

- United States Patent and Trademark Office granted a patent for CDC7 inhibitor (April)
- Intellectual Property Office of Singapore granted a patent for BTK inhibitor (May)
- European Patent Office granted a patent for BTK inhibitor (June)

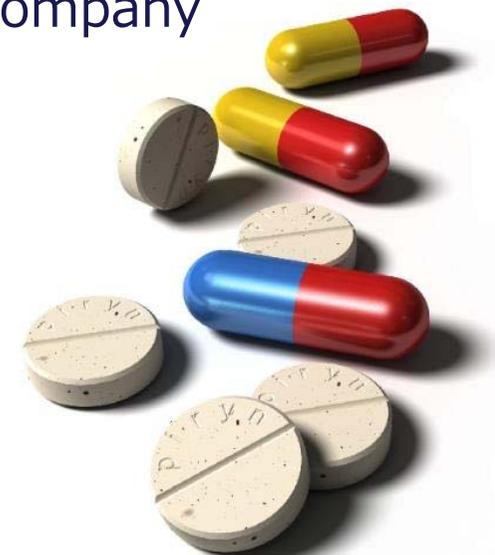
Building a Sustainable Company



Continuously Discovering and Delivering Innovative Therapies for Patients by leveraging Carna's powerful kinase technology platform



- ◆ Continuing to Expand Preclinical/Clinical Pipeline
- ◆ Established clinical development capabilities to initiate in-house clinical studies



FY2018 Q2 Consolidated Financial Results



(JPY mn)	FY2017 Q2 Actual	FY2018 Q2 Actual	YoY Change	FY2018 Plan	
Sales	326	399	+72 (+22.1%)	1,190	- Received an upfront payment for a new joint research agreement. - Sales of kinase proteins were robust.
Operating Loss	(291)	(436)	-144	(679)	Investment in R&D.
Ordinary Loss	(297)	(443)	-145	(694)	
Net Loss	(316)	(489)	-173	(758)	
R&D Cost	270	468	+197 (+73.3%)	1,014	Investment in preclinical studies.

Note 1: Rounded down to the nearest million yen.

Note 2: YoY change % for Operating Loss, Ordinary Loss, and Net Loss are not presented since losses were recorded.

Note 3: FY2018 plan was disclosed on February 9, 2018.

FY2018 Q2 Results by Business Segment



(JPY mn)	FY2017 Q2 Actual	FY2018 Q2 Actual	YoY Change	FY2018 Plan	Q2 Actual vs. FY Plan	
Total Sales	326	399	+72 (+22.1%)	1,190	33.5%	
Drug Discovery Support	326	349	+22 (+6.8%)	750	46.5%	Sales of kinase proteins were robust in Japan, EU, and in China.
Drug Discovery & Development	—	50	+50	440	11.4%	Received an upfront payment for a new joint research agreement.
Total Operating Loss	(291)	(436)	-144	(679)	—	
Drug Discovery Support	70	78	+8.4 (+12.1%)	150	52.4%	Profitability improved as sales of profitable kinase proteins were robust.
Drug Discovery & Development	(362)	(515)	-153	(829)	—	Investment in preclinical studies.

Note 1: Rounded down to the nearest million yen.

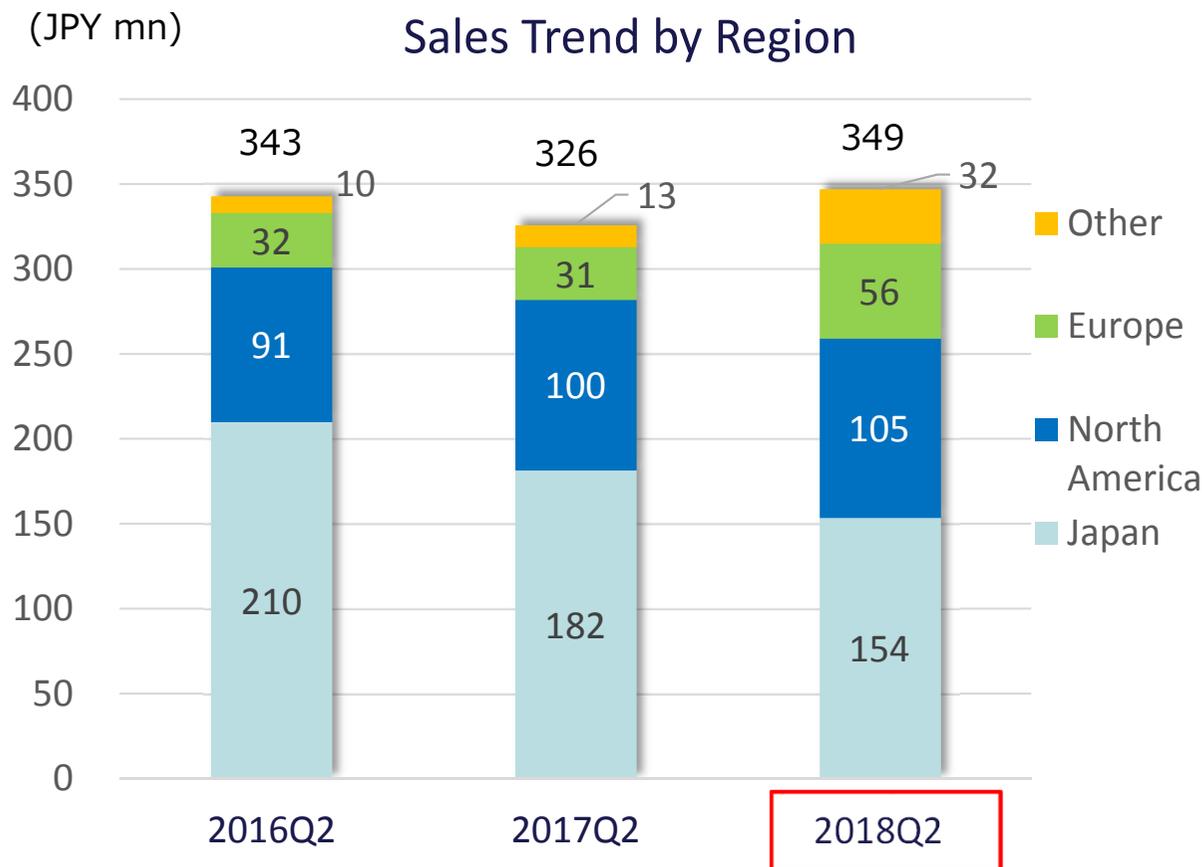
Note 2: YoY change % and comparison to FY2018 plan for Operating Loss are not presented since losses were recorded.

Note 3: FY2018 plan was disclosed on February 9, 2018.

FY2018 Q2 Sales Trend by Region Drug Discovery Support Business



Drug Discovery Support Business
Sales Trend by Region



- Japan: Decreased 15.3% YoY
Sales to Ono Pharmaceutical were weak while sales to other customers remained the same as the previous year.
- North America: Increased 5.5% YoY
Profiling and screening services were robust while kinase proteins were weak.
- Europe: Increased 81.5% YoY
Sales of kinase proteins were robust.
- Other: Increased 145.8%YoY
Sales of kinase proteins increased significantly in China.

(Note) Sales to Ono Pharmaceuticals
FY2017Q2 ... 86 mn yen
FY2018Q2 ... 58 mn yen

Consolidated Balance Sheet



(JPY mn)

	As of Dec. 31, 2017	As of Jun. 30, 2018	Change	Reason for changes
Current assets	2,134	1,842	-291	
Cash and deposits	1,856	1,519	-336	
Other	278	322	+44	Raw materials and supplies +29, Accounts receivable-trade -18
Non-current Assets	56	116	+60	
Total assets	2,190	1,959	-231	
Current liabilities	341	390	+48	Current portion of long-term loans payable +94, Account payable-other -38
Non-current liabilities	470	583	+113	Long term loans payable +127, Bonds payable -14
Total liabilities	812	974	+162	
Total net assets	1,377	984	-393	Retained earnings -489
Total liabilities and net assets	2,190	1,959	-231	
Shareholders' equity ratio	62.2%	49.5%		
BPS	142.68 yen	100.73 yen		
PBR	7.91 x	13.09 x		
Share price of Carna Biosciences	1,128 yen	1,319 yen		

Note: Share price of Carna Biosciences is based on the closing price of JASDAQ growth

Pipeline Status

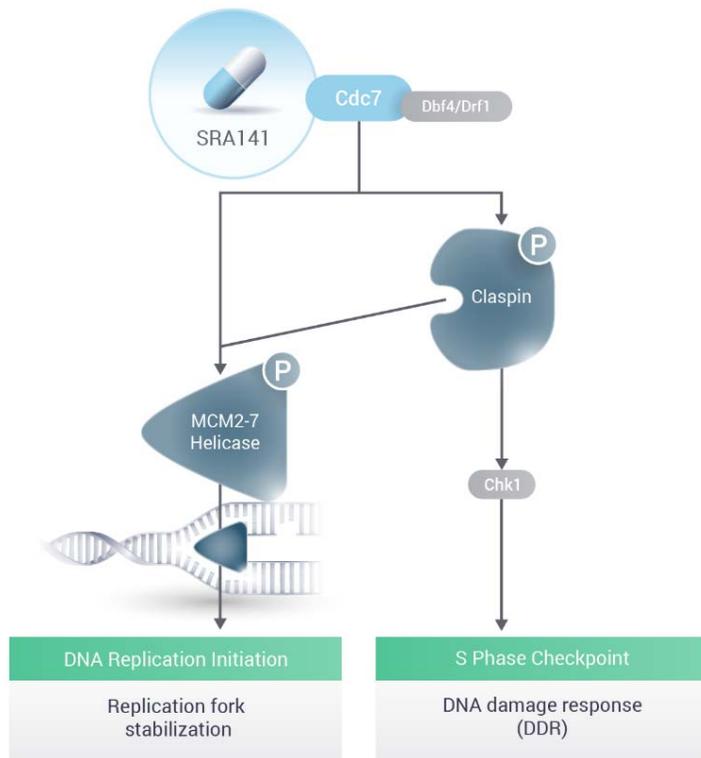


Compound	Target	Indication	Development Phase					Partner/ Collaboration partner
			Discovery	Preclinical	PhI	PhII	PhIII	
SRA141 (AS-141)	CDC7/ASK	Cancer						SIERRA ONCOLOGY
AS-871	BTK	Autoimmune Diseases						
CB-1763	BTK	Blood Cancer Immuno-Oncology						
Small Molecule	Wnt-signal	Cancer Immuno-Oncology						National Cancer Center Japan
Small Molecule	Kinase	Psychiatry & neurology						Sumitomo Dainippon Pharma
Small Molecule	TGFβ signaling	Blood Cancer Immuno-Oncology						HIROSHIMA UNIVERSITY
Small Molecule	Kinase	Autoimmune Diseases						
Small Molecule	N/A	Malaria						KITASATO UNIVERSITY
Small Molecule	DGK	Immuno-Oncology						
Small Molecule	Undisclosed	Cancer						National Cancer Center Japan

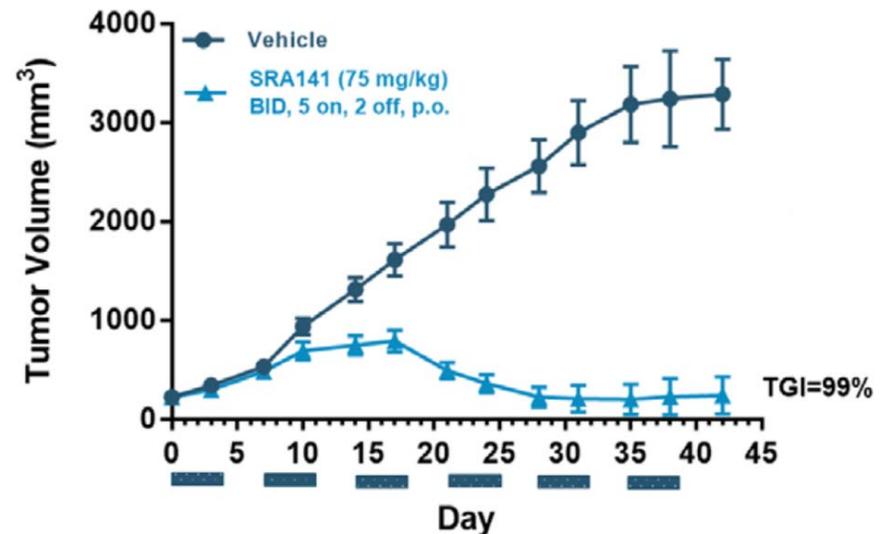
SRA141 : CDC7 Inhibitor Targeting Cancer (Out-licensed to Sierra Oncology)



- ✓ Sierra is advancing the research to initiate clinical study, anticipating to submit an IND in H2 2018.
- ✓ Recent studies demonstrated that SRA141 significantly inhibits tumor growth in AML MV4-11 rat xenograft model and colorectal COLO-205 rat xenograft model. In AML model, some rats were cured completely and in colorectal model, complete tumor regressions were observed for over half of rats. Phase 1/2 clinical program to be focused on colorectal cancer.



Source: Sierra Oncology



COLO205 model: *TP53* & *MSS* - relevant genetics for *Cdc7i*. Tumor growth inhibition (TGI) = 99%; CRs in 4/7 (57%) animals.

Source: Sierra Oncology

AS-871 : Non-covalent BTK Inhibitor targeting autoimmune diseases

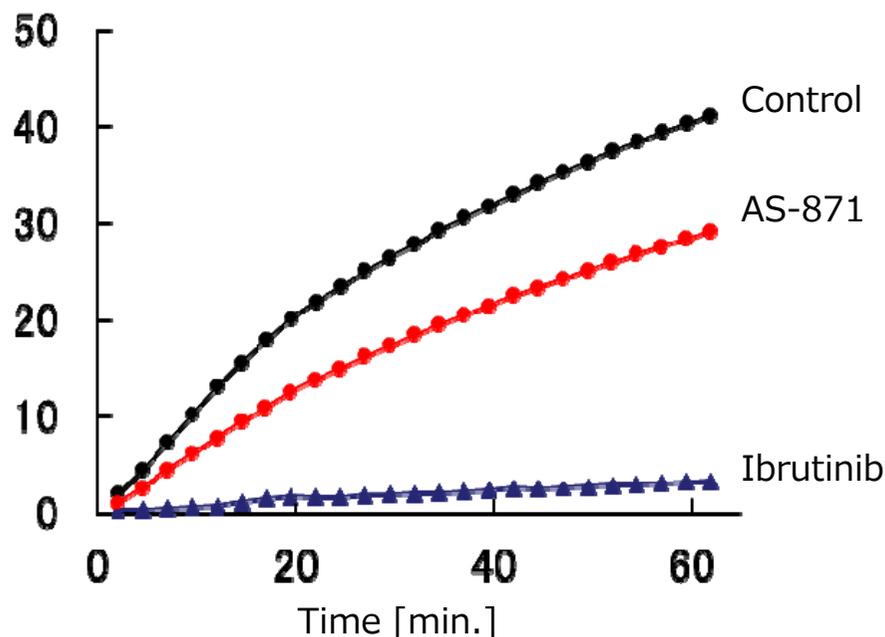


- ✓ GMP bulk material production is initiated for Phase I clinical study.
- ✓ Preparing preclinical safety studies under GLP conditions.

AS-871 : Development undergoing targeting autoimmune diseases

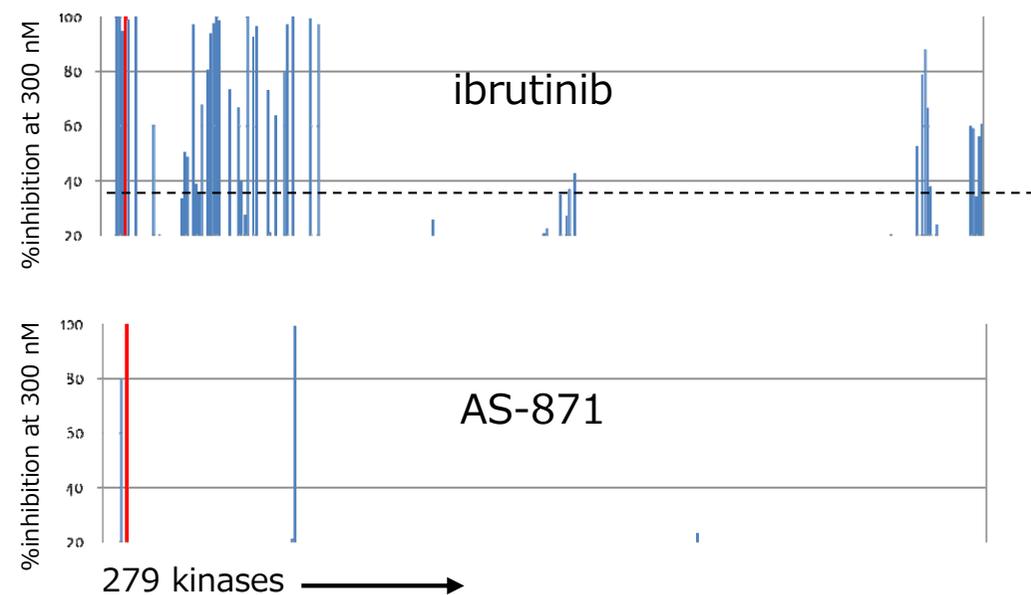
- Small molecule BTK inhibitor
- Non-covalent/reversible
- High kinase selectivity
- Demonstrated significant efficacies in arthritis models
- Showed efficacy in systemic lupus erythematosus model
- Preclinical development undergoing with IND submission targeted in the first half of 2019

◆ Non-covalent/Reversible inhibition

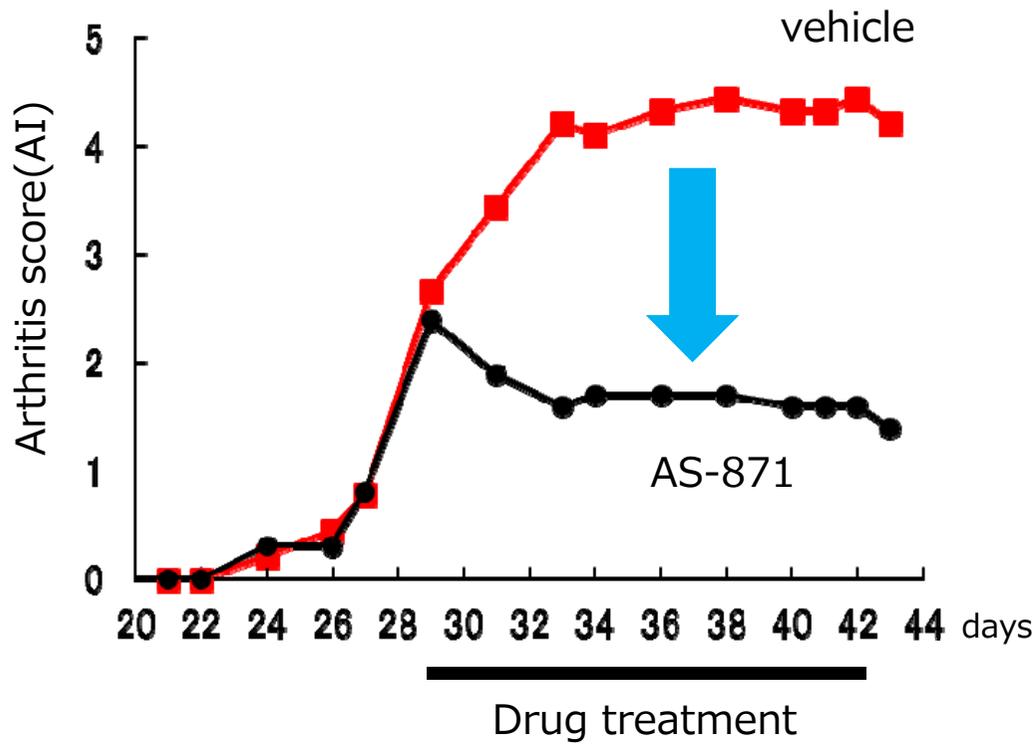


Carna Biosciences, Inc. All rights reserved.

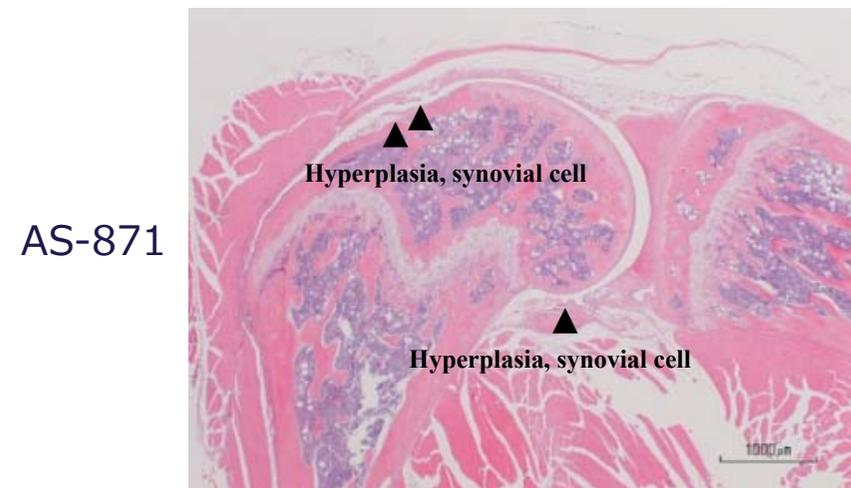
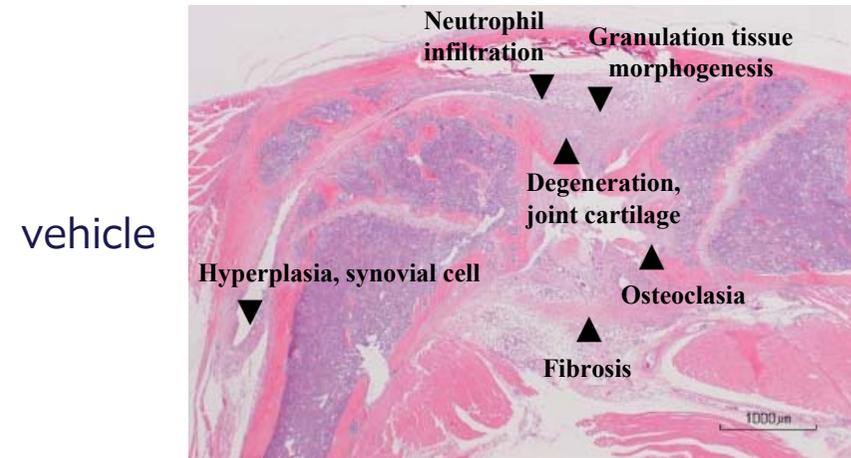
◆ High kinase selectivity



Therapeutic efficacy in Collagen-induced arthritis (CIA) mice



Histopathology of knee joints



CB-1763: Next Generation BTK Inhibitor Targeting Blood Cancer

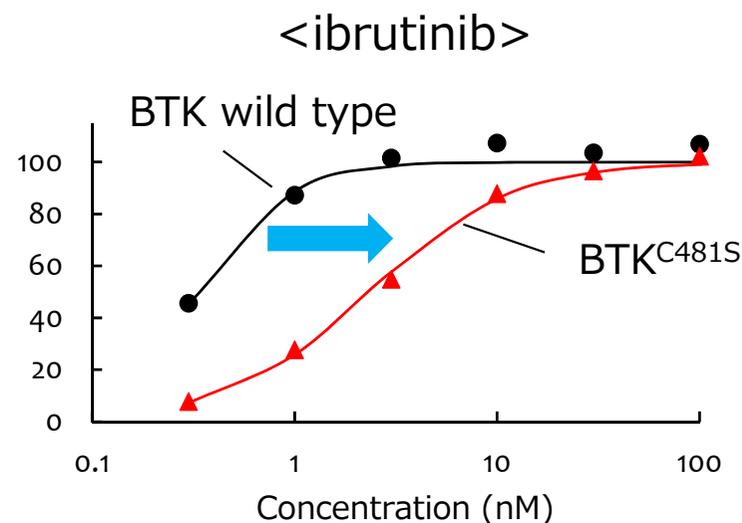
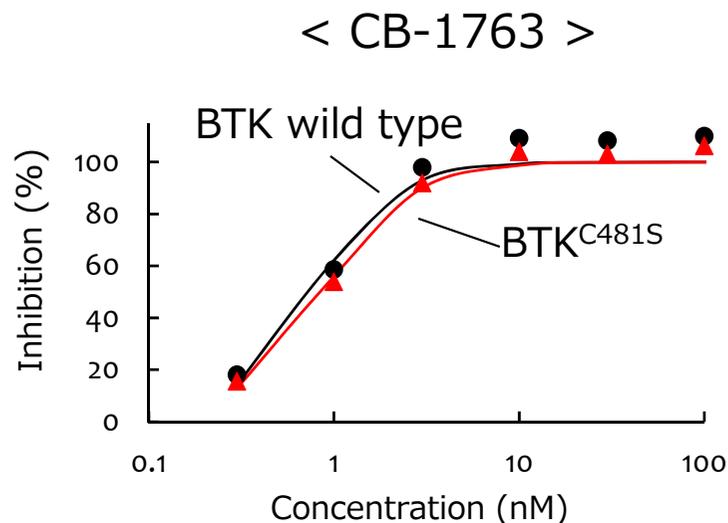


- ✓ We are accelerating the preclinical development of CB-1763 by leveraging Evotec AG's INDiGO platform.

CB-1763 : Development undergoing targeting blood cancer

- Non-covalent/reversible
- High kinase selectivity
- Inhibits both BTK wild type and ibrutinib resistant BTK C481S mutants
- Displayed strong anti-tumor effects in lymphoma model
- Preclinical development undergoing with IND submission targeted in the first half of 2019
- Potential applications for autoimmune diseases

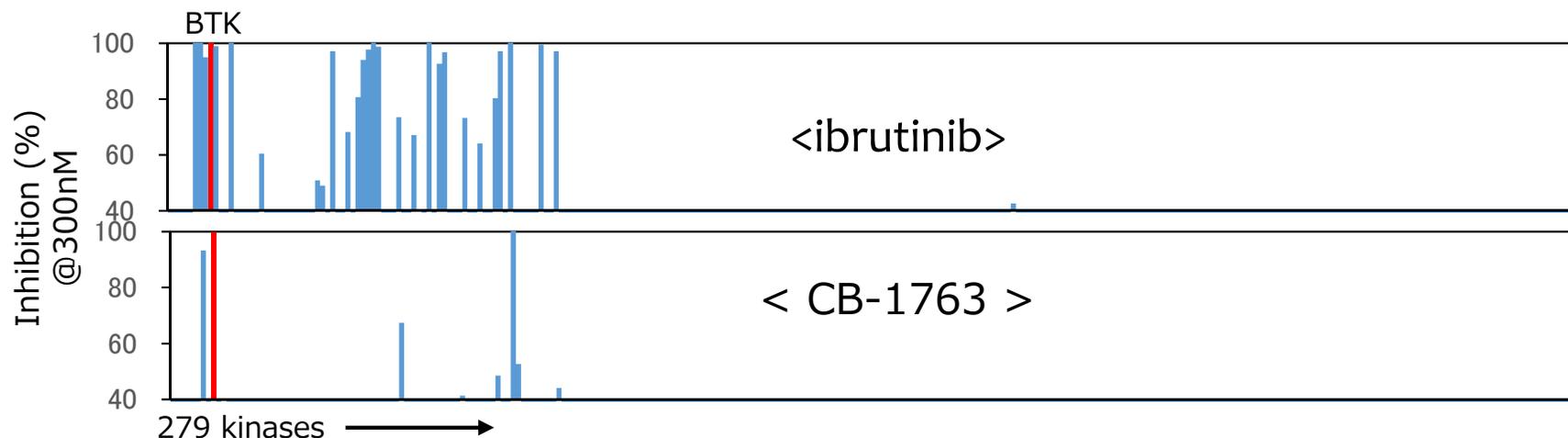
- CB-1763 inhibits both WT and C481S mutant BTK enzymes



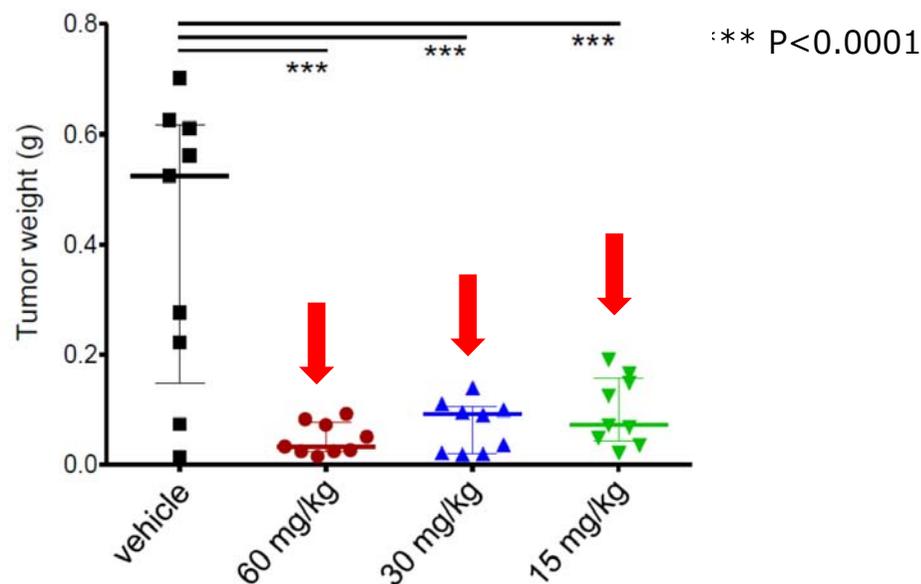
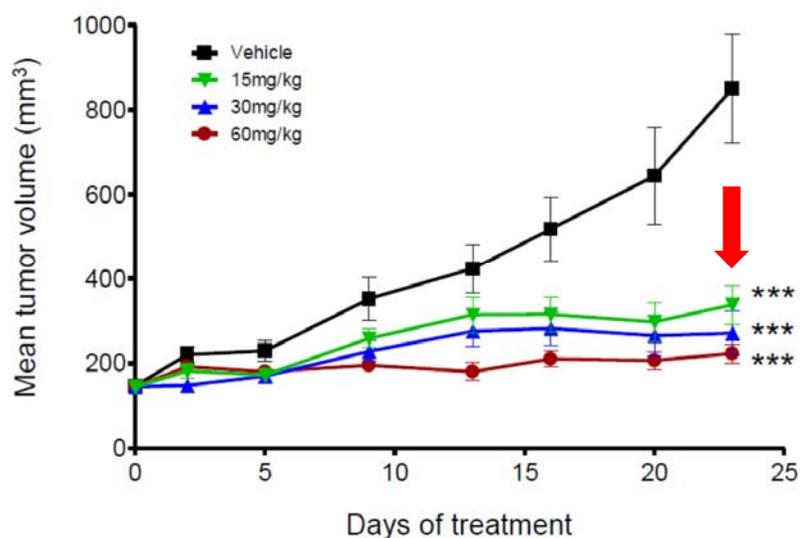
CB-1763: Next Generation BTK Inhibitor Targeting Blood Cancer



- CB-1763 is a highly selective inhibitor



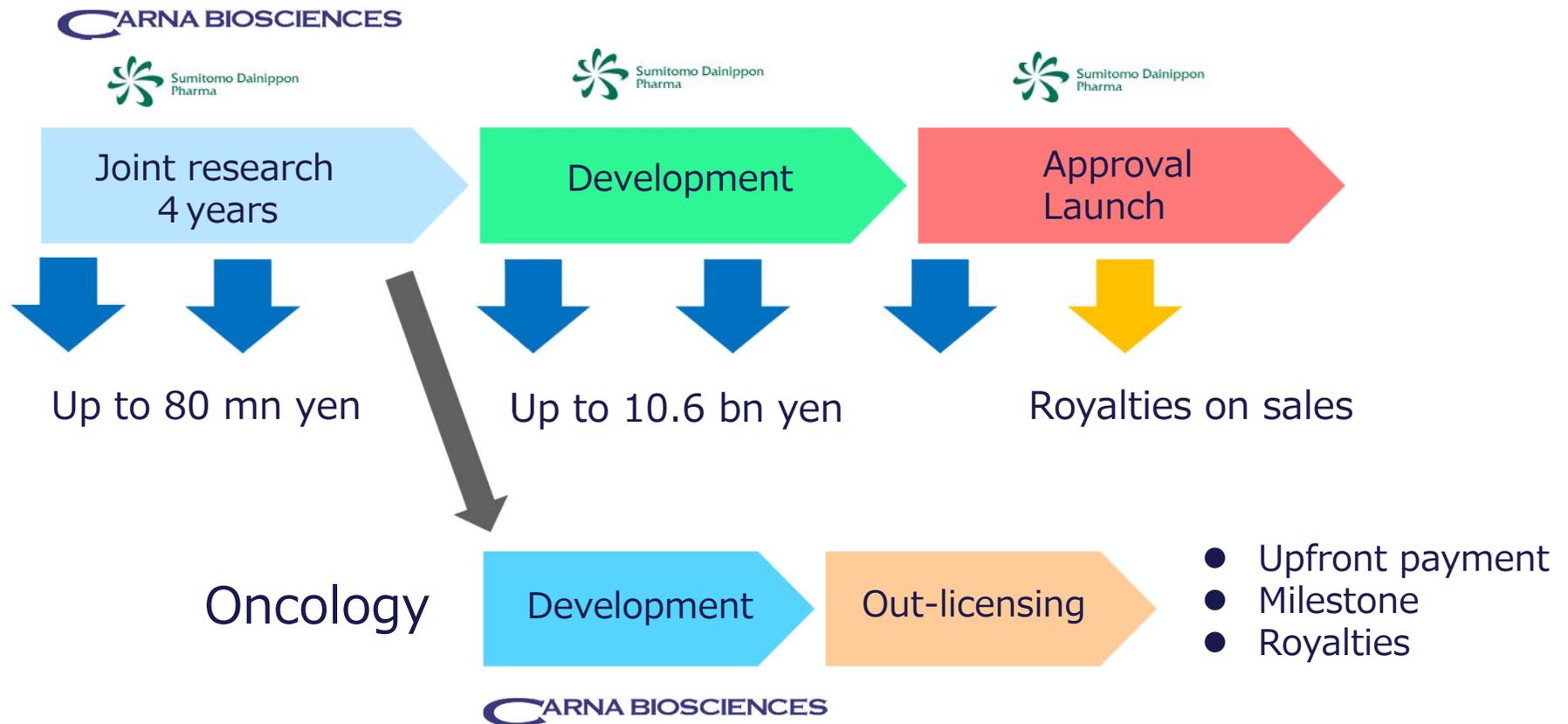
- CB-1763 significantly inhibits tumor growth in a B-cell lymphoma mouse model



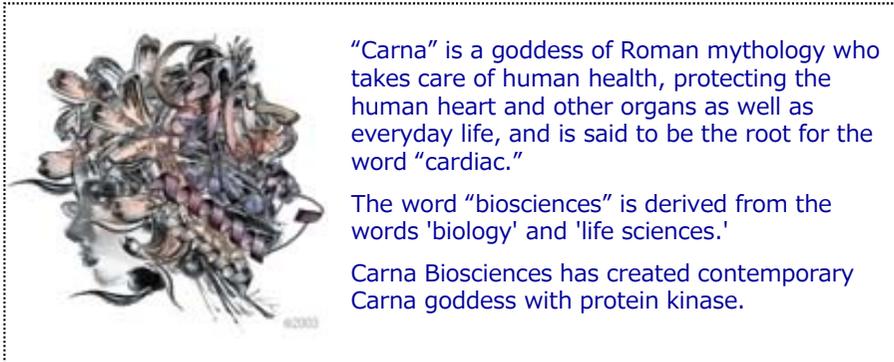
Joint Research agreement with Sumitomo Dainippon Pharma



- ✓ Carana and Sumitomo Dainippon Pharma are conducting joint research based on the agreement signed in March 2018 on joint research with the aim of discovering novel kinase inhibitors for psychiatric and neurological disorders as well as on the subsequent development and commercialization of such therapeutic agent(s).
- ✓ Carna has received an upfront payment in accordance with the agreement. Carna will receive up to approximately 10.6 billion yen in total as an upfront payment and milestone payments on development and sales.



- ✓ Overall sales and operating profit of the Drug Discovery Support Business increased thanks to the robust sales in Europe and the significant sales increase in China.
- ✓ In North America, profiling services were robust. Carna will continue seeking new customers, aiming to expand market share further.
- ✓ In order to establish a strong presence in China where drug discovery research is rapidly expanding, Carna will continue strengthening relationship with our distributor and promoting our products and services aggressively.
- ✓ In Europe, our agent promoted our products and services actively to the existing customers, which contributed to the strong sales. We will continue working closely with the agent to increase sales activities further.
- ✓ We continued to focus our marketing efforts on expanding sales of DGK assay kits.
- ✓ Preparing to launch a new cell-based assay service by the year end.



“Carna” is a goddess of Roman mythology who takes care of human health, protecting the human heart and other organs as well as everyday life, and is said to be the root for the word “cardiac.”

The word “biosciences” is derived from the words 'biology' and 'life sciences.'

Carna Biosciences has created contemporary Carna goddess with protein kinase.

Carna Biosciences, Inc.

Corporate Planning Division

BMA3F 1-5-5 Minatojia-Minaimachi,

Chuo-ku, Kobe 650-0047

Tel 81 78 302 7075 Fax 81 78 302 6665

<http://www.carnabio.com/>

ir-team@carnabio.com

This document was prepared for the sole purpose of providing information to investors and is not intended as a solicitation for investment.

The forward-looking statements contained in this document are based on our plans and estimation and do not imply a commitment or guarantee of actual outcomes.

Investors should aware that the actual performance of the company could be materially different from our current forecasts.

The statements on the industry and other information were prepared based on the data assumed to be reliable. However, no guarantee is given regarding the accuracy or completeness of the information.

This document is presented on the assumption that all investors will make use of this document on their own judgment and responsibilities regardless of their purposes. Therefore, we do not assume no responsibility for any consequence caused by using this document.