

# Financial Results

## FY2017 Q2

(January to June 2017)

# Carna Biosciences, Inc.



**Stock Code : 4572**

## < R&D Highlights >

- The research collaboration with the National Cancer Research Center Institute has been extended to continue developing novel anticancer drugs targeting kinases.
- The research collaboration with Hiroshima University has been extended by 3 years to continue conducting drug discovery research targeting leukemia stem cells.
- Entered into a collaboration agreement with Keio University School of Medicine to establish a new cancer immunotherapy.
- AS-871, a novel non-covalent BTK inhibitor, advanced to preclinical development for treating rheumatoid arthritis.
- Our collaborator, Dr. Tesshi Yamada of the National Cancer Research Center Institute, won the Kobayashi Foundation Award 2017 for an outstanding research to develop novel TNIK inhibitors through collaboration with Carna.

## < Support Business Highlights >

- To expand our service business portfolio, Carna and EpiBiome have entered into an agreement to launching Microbiome profiling services in Japan. Carna has been collaborating with EpiBiome to develop a novel microbiome therapeutics since January 2017.

## < Other activities >

- Japan Patent Office and Korean Intellectual Property Office granted a patent for BTK inhibitor in May.
- State Intellectual Property Office of China granted a patent for TNIK inhibitor in June.
- IP Australia granted a patent for BTK inhibitor in June.

# Q2 Consolidated Financial Results



- ✓ Sales decreased 26.2% YoY (decreased 115 million yen YoY) due to the initial upfront payment recorded in Q2 FY2016.
- ✓ Operating loss was 291 million yen and deteriorated by 96 million yen YoY mainly due to lack of initial upfront payment recorded in Q2 FY2016.
- ✓ Net loss deteriorated by 282 million yen yoy due to extraordinary income (gain on sales of investment securities) recorded in Q2 FY2016.

(Millions of yen)

	Net Sales	Operating Loss	Ordinary Loss	Net Loss
FY2017 Q2 (Jan.- Jun. 2017) (a)	326	(291)	(297)	(316)
FY2016 Q2 (Jan.- Jun. 2016) (b)	442	(195)	(208)	(33)
YoY change (c)=(a)-(b)	-115	-96	-88	-282
YoY change % (d)=(c)/(b)	-26.2%	—	—	—

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.

# Q2 Results by Business Segment



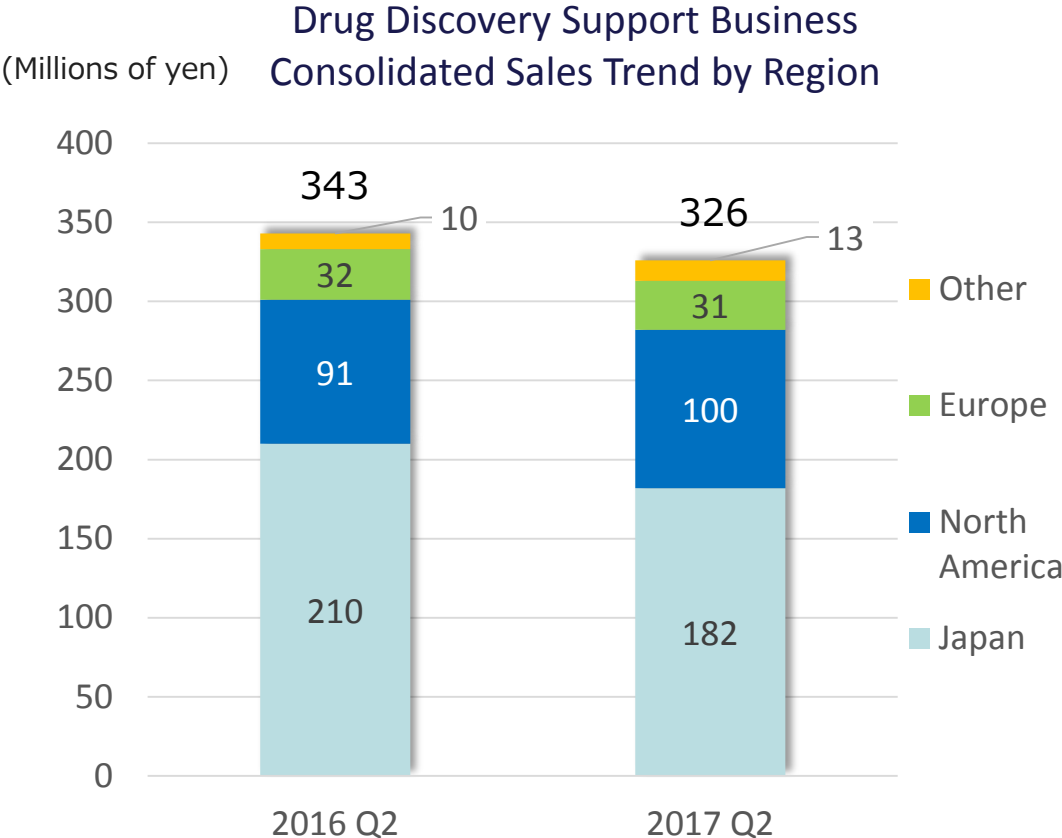
(Millions of yen)

	Net Sales			Operating Profit (Loss)		
	Drug Discovery Support	Drug Discovery & Development	Total	Drug Discovery Support	Drug Discovery & Development	Total
FY2017 Q2 (a)	326	—	326	70	(362)	(291)
FY2016 Q2 (b)	343	98	442	78	(274)	(195)
YoY change (c)=(a)-(b)	-16	-98	-115	-8	-87	-96
YoY change (%) (d)=(c)/(b)	-4.9%	—	-26.2%	-10.8%	—	—
FY2017 Forecast (d)	1,000	440	1,440	443	(403)	39
Progress vs. Forecast (a)/(d)	32.7%	0.0%	22.7%	15.8%	—	—

Note 1: Rounded down to the nearest million yen

Note 2: Full year financial forecasts is in line with the forecasts disclosed on February 10, 2017. Please see Consolidated Financial Results for the Year Ended December 31, 2016.

Note 3: YoY change % and progress rate are not presented for consolidated operating loss and operating loss at the Drug Discovery and Development business since losses were recorded.



- Japan: Sales to Ono Pharmaceutical was 86 million yen, down 25 million yen from 112 million yen in Q2 2016.
- North America: Sales of kinase proteins were robust.
- Other region: Sales of kinase proteins were robust.

# Consolidated Balance Sheet



(millions of yen)

	As of Jun. 30, 2017	As of Dec 31, 2016	Change	Reason for changes
Current assets	2,135	2,492	-356	
Cash and deposits	1,892	2,161	-268	
Other	243	331	-88	Accounts receivable-trade -50
Non-current Assets	57	73	-16	
Total assets	2,193	2,566	-373	
Current liabilities	231	271	-39	Account payable-other -36
Non-current liabilities	470	555	-84	Bonds payable -14, Long term loans payable -71
Total liabilities	702	826	-124	
Total net assets	1,491	1,739	-248	Retained earnings -316, Capital stock and capital surplus +70
Total liabilities and net assets	2,193	2,566	-373	
Shareholders' equity ratio	67.8%	67.6%		
BPS	159.57 yen	187.73 yen		
PBR	10.90 x	11.32 x		
Share price of Carna Biosciences	1,740 yen	2,125 yen		

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

# Drug Discovery Pipeline



As of the end of June, 2017

Compound	Target kinase	Indication	Development Phase						
			Lead generation	Lead optimization	Candidate selection	Preclinical trials	Clinical trials	New drug application	Launch
SRA-141	CDC7	Cancer	Out-licensed to Sierra Oncology (SRA141)						
NCB-0846	Wnt-signal (TNIK)	Cancer	█	█	█	█			
NCB-0594	Wnt-signal (TNIK)	Cancer	█	█	█				
AS-871	BTK	Autoimmune Diseases	█	█	█	█			
Small molecule	TGFβ signaling	Leukemic stem cell Immuno-Oncology	█	█					
Small molecule	Kinase	Autoimmune Diseases	█						
Small molecule	N/A	Malaria	█	█					
Small molecule	Kinase	Neurodegenerative disease	█	█					
Small molecule	Kinase	Anemia	█	█					



➤ *SRA141 (AS-141): CDC7 Inhibitor out-licensed to Sierra Oncology*

Carna will receive milestone payments of up to \$270 million upon achievement of certain milestones. Initiation of PhI clinical trials will be the next expected milestone.

➤ *NCB-0846: TNIK inhibitor (collaborating with National Cancer Center)*

NCB-0846 was selected as a grant program of AMED (Japan Agency for Medical Research and Development), "Practical Research for Innovative Cancer Control."

Carna and National Cancer Center are conducting the preclinical development with a support from AMED in order to initiate clinical studies as early as possible.

We are also conducting preclinical work of NCB-0594, backup for NCB-0846, to move forward to a preclinical stage.

➤ *Small molecules: TGF $\beta$  signaling inhibitor (collaborating with Hiroshima University)*

Carna is developing a small molecule inhibitor of TGF $\beta$  signaling targeting leukemia stem cells in collaboration with Dr. Naka of Hiroshima University. We will continue Lead optimization to maximize therapeutic effects of compounds.

➤ *AS-871: BTK inhibitor targeting autoimmune diseases*

AS-871, a novel non-covalent BTK inhibitor, advanced to preclinical development. The compound is undergoing preclinical GLP safety study.

➤ *Small molecule: novel anti-malarial drug (collaborating with Kitasato University)*

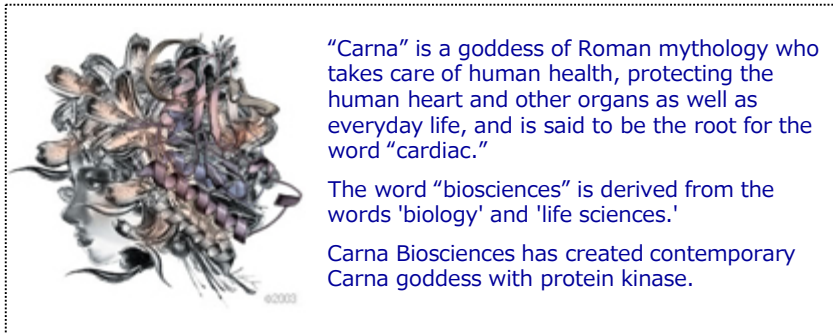
Kitasato and Carna are continuing the lead optimization to generate a clinical candidate.

➤ *Other programs*

Carna is also working on several programs in the areas of inflammatory diseases, neurodegenerative diseases to strengthen the company's pipeline and exploring an out-licensing opportunity.

Carna extended the collaboration agreement with Osaka Prefecture University to continue developing novel strategy for structure-based drug design.

- Sales to Ono Pharmaceutical decreased year-on-year.
- While making an effort to win large-scale contracts for our novel DGK assay kits, we are also proposing smaller scale projects to respond to customer needs.
- Launched DGK all ten isozyme profiling services, promoting as the one and only service.
- Newly released 7 Lipid kinase proteins (PIP Kinases). Planning to expand products and services related to Lipid kinases.
- Running a promotion campaign in Japan and North America to boost sales.
- Starting to provide microbiome profiling services of EpiBiome, our research collaboration partner, in Japan in order to boost sales.



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