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On **August 13, 2019**, Carna Biosciences, Inc. announced earnings results for 1H FY12/19.

Cumulative (JPYmn)	FY12/17				FY12/18				FY12/19				FY12/19	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	% of FY	FY Est.
<b>Sales</b>	<b>196</b>	<b>327</b>	<b>483</b>	<b>658</b>	<b>211</b>	<b>399</b>	<b>587</b>	<b>755</b>	<b>170</b>	<b>2,461</b>			81.0%	<b>3,038</b>
YoY	-13.0%	-26.2%	-16.8%	-19.0%	7.7%	22.1%	21.4%	14.8%	-19.5%	516.6%				-
Gross profit	131	214	315	435	146	289	408	504	126	2,371				
GPM	66.9%	65.5%	65.3%	66.2%	69.1%	72.4%	69.5%	66.8%	74.2%	96.3%				
SG&A expenses	245	506	793	1,134	335	726	1,171	1,649	359	919				
YoY	-7.0%	0.9%	9.3%	15.6%	36.7%	43.4%	47.6%	45.4%	7.3%	26.7%				
SG&A ratio	124.9%	154.8%	164.1%	172.5%	158.5%	181.8%	199.5%	218.4%	211.3%	37.4%				
<b>Operating profit</b>	<b>-114</b>	<b>-292</b>	<b>-477</b>	<b>-699</b>	<b>-189</b>	<b>-437</b>	<b>-763</b>	<b>-1,145</b>	<b>-233</b>	<b>1,451</b>			463.7%	<b>313</b>
YoY	-	-	-	-	-	-	-	-	-	-				-
OPM	-	-	-	-	-	-	-	-	-	59.0%				10.3%
<b>Recurring profit</b>	<b>-114</b>	<b>-297</b>	<b>-486</b>	<b>-711</b>	<b>-191</b>	<b>-443</b>	<b>-773</b>	<b>-1,159</b>	<b>-236</b>	<b>1,446</b>			518.4%	<b>279</b>
YoY	-	-	-	-	-	-	-	-	-	-				-
RPM	-	-	-	-	-	-	-	-	-	58.8%				9.2%
<b>Net income</b> attrib. to parent company shareholders	<b>-119</b>	<b>-316</b>	<b>-508</b>	<b>-737</b>	<b>-194</b>	<b>-490</b>	<b>-823</b>	<b>-1,211</b>	<b>-237</b>	<b>1,196</b>			558.8%	<b>214</b>
YoY	-	-	-	-	-	-	-	-	-	-				-
Net margin	-	-	-	-	-	-	-	-	-	-				7.0%

Quarterly (JPYmn)	FY12/17				FY12/18				FY12/19				FY12/19	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	% of FY	FY Est.
<b>Sales</b>	<b>196</b>	<b>131</b>	<b>157</b>	<b>174</b>	<b>211</b>	<b>188</b>	<b>188</b>	<b>168</b>	<b>170</b>	<b>2,291</b>			81.0%	<b>3,038</b>
YoY	-13.0%	-39.8%	13.0%	-24.4%	7.7%	43.7%	20.0%	-3.7%	-19.5%	1,118.6%				
Gross profit	131	83	101	120	146	143	119	96	126	2,245				
GPM	66.9%	25.4%	21.0%	18.2%	69.1%	35.8%	20.3%	12.7%	74.2%	91.2%				
SG&A expenses	245	261	287	341	335	391	445	478	359	560				
YoY	-7.0%	9.5%	28.1%	33.5%	36.7%	49.6%	55.2%	40.1%	7.3%	43.3%				
SG&A ratio	124.9%	79.9%	59.4%	51.9%	158.5%	97.9%	75.9%	63.3%	211.3%	22.8%				
<b>Operating profit</b>	<b>-114</b>	<b>-178</b>	<b>-186</b>	<b>-222</b>	<b>-189</b>	<b>-248</b>	<b>-326</b>	<b>-382</b>	<b>-233</b>	<b>1,685</b>				
YoY	-	-	-	-	-	-	-	-	-	-				-
OPM	-	-	-	-	-	-	-	-	-	68.5%				
<b>Recurring profit</b>	<b>-114</b>	<b>-184</b>	<b>-189</b>	<b>-225</b>	<b>-191</b>	<b>-252</b>	<b>-330</b>	<b>-386</b>	<b>-236</b>	<b>1,682</b>				
YoY	-	-	-	-	-	-	-	-	-	-				-
RPM	-	-	-	-	-	-	-	-	-	73.4%				
<b>Net income</b> attrib. to parent company shareholders	<b>-119</b>	<b>-197</b>	<b>-192</b>	<b>-229</b>	<b>-194</b>	<b>-295</b>	<b>-333</b>	<b>-388</b>	<b>-237</b>	<b>1,433</b>				
YoY	-	-	-	-	-	-	-	-	-	-				-
Net margin	-	-	-	-	-	-	-	-	-	-				

Segments (cumulative) (JPYmn)	FY12/17				FY12/18				FY12/19				FY12/19	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	% of FY	FY Est.
<b>Sales</b>	<b>196</b>	<b>326</b>	<b>483</b>	<b>658</b>	<b>211</b>	<b>399</b>	<b>587</b>	<b>755</b>	<b>170</b>	<b>2,460</b>			81.0%	<b>3,038</b>
YoY	-13.0%	-26.4%	-16.9%	-19.0%	7.7%	22.4%	21.5%	14.8%	-19.4%	516.5%				
Drug Discovery and Development	-	-	-	-	-	50	50	50	-	2,128			101.3%	<b>2,100</b>
YoY	-	-	-	-	-	-	-	-	-	-4,156.0%				<b>4,100.0%</b>
Drug Discovery Support	196	326	483	658	211	349	536	705	170	332			35.4%	<b>938</b>
YoY	-13.0%	-5.2%	0.1%	-7.7%	7.7%	7.1%	11.0%	7.2%	-19.4%	-4.9%				<b>33.1%</b>
<b>Operating profit</b>	<b>-114</b>	<b>-292</b>	<b>-477</b>	<b>-699</b>	<b>-189</b>	<b>-437</b>	<b>-763</b>	<b>-1,145</b>	<b>-233</b>	<b>1,450</b>			463.3%	<b>313</b>
YoY	-	-	-	-	-	-	-	-	-	-				-
Drug Discovery and Development	-177	-362	-576	-842	-253	-515	-876	-1,262	-263	1,435			2207.7%	<b>65</b>
YoY	-	-	-	-	-	-	-	-	-	-				-
Drug Discovery Support	63	70	99	143	64	78	114	117	30	15			6.1%	<b>247</b>
YoY	-17.1%	-11.0%	1.0%	-25.6%	1.6%	11.4%	15.2%	-17.7%	-53.1%	-80.8%				<b>110.8%</b>
OPM	-	-	-	-	-	-	-	-	-	-				10.3%
Drug Discovery and Development	-	-	-	-	-	-	-	-	-	-				3.1%
Drug Discovery Support	32.1%	21.5%	20.5%	21.7%	30.3%	22.3%	21.3%	16.7%	17.7%	4.5%				<b>26.3%</b>

Segments (quarterly) (JPYmn)	FY12/17				FY12/18				FY12/19				FY12/19	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	% of FY	FY Est.
<b>Sales</b>	<b>196</b>	<b>130</b>	<b>157</b>	<b>175</b>	<b>211</b>	<b>188</b>	<b>188</b>	<b>168</b>	<b>170</b>	<b>2,290</b>			81.0%	<b>3,038</b>
YoY	-13.0%	-40.2%	13.4%	-24.2%	7.7%	44.6%	19.7%	-3.8%	-19.4%	1,118.1%				
Drug Discovery and Development	-	-	-	-	-	50	-	-	-	2,128				
YoY	-	-	-	-	-	-	-	-	-	-4,156.0%				
Drug Discovery Support	196	130	157	175	211	138	187	169	170	162				
YoY	-13.0%	9.7%	13.4%	-24.2%	7.7%	6.2%	19.1%	-3.3%	-19.4%	17.4%				
<b>Operating profit</b>	<b>-114</b>	<b>-178</b>	<b>-185</b>	<b>-222</b>	<b>-189</b>	<b>-248</b>	<b>-326</b>	<b>-382</b>	<b>-233</b>	<b>1,683</b>				
YoY	-	-	-	-	-	-	-	-	-	-				-
Drug Discovery and Development	-177	-185	-214	-266	-253	-262	-361	-386	-263	1,698				
YoY	-	-	-	-	-	-	-	-	-	-				-
Drug Discovery Support	63	7	29	44	64	14	36	3	30	-15				
YoY	-17.1%	161.0%	50.0%	-53.4%	1.6%	100.0%	24.1%	-92.1%	-53.1%	-				
OPM	-	-	-	-	-	-	-	-	-	-				
Drug Discovery and Development	-	-	-	-	-	-	-	-	-	-				
Drug Discovery Support	32.1%	5.4%	18.5%	25.1%	30.3%	10.1%	19.3%	2.1%	17.7%	-9.3%				

Source: Shared Research based on company data

Note: Figures may differ from company data due to differences in rounding methods.

## 1H FY12/19 results (out August 13, 2019)

- ▷ Sales JPY2.5bn (+516.6% YoY)
- ▷ Operating profit: JPY1.5bn (JPY437mn operating loss in 1H FY12/18)
- ▷ Recurring profit: JPY1.4bn (JPY443mn recurring loss in 1H FY12/18)
- ▷ Net income\*: JPY1.2bn (JPY490mn net loss in 1H FY12/18)

\* Net income refers to net income attributable to parent company shareholders.

- ▷ Sales up 516.6% YoY: In Q2 FY12/19, Carna entered into an agreement under which it will license out to US-based Gilead Sciences, Inc. the exclusive rights to develop and commercialize Carna's immuno-oncology drug discovery program worldwide. In connection with this agreement, Carna received an upfront payment of USD20mn.
- ▷ Operating profit of JPY1.5bn: GPM up 24.0pp YoY to 96.3% due to sharp profit growth from booking an upfront payment. The SG&A to sales ratio improved sharply from 181.8% a year earlier to 37.4%. As a result, the company recorded a profit for the first time since FY12/15.
- ▷ Progress: In terms of progress versus the revised full-year FY12/19 forecasts announced on June 25, 2019, sales were at 81.0% (1H FY12/18 results reached 52.9% of full-year FY12/18 results), operating profit 463.7% (recorded a loss), recurring profit 518.4% (loss), and net income attributable to parent company shareholders 558.8% (loss).

### Overview of R&D of molecular targeted drugs and Carna's major pipeline

The US Food and Drug Administration (FDA) approved 59 molecular targeted drugs in fiscal 2018, up from 46 in fiscal 2017. Of these, more than 60% were small molecular targeted drugs, thus confirming molecular targeted candidates, including the small molecule kinase inhibitor drugs in Carna's pipeline, are still a hot R&D theme. As a result, molecular targeted drugs also accounted for more than 20% of new drug candidates that were awarded Breakthrough Therapy designation. A wave of effective new drugs has been approved especially in the oncology field, where there have been successive approvals of immune checkpoint inhibitors, label expansions, and a surge in clinical trials evaluating combinations such as immune checkpoint inhibitors and kinase inhibitor drugs. Thus expectations are high of an innovative new oncology drug resulting from R&D of molecular targeted candidates.

In June 2019, Carna entered into an agreement under which it will license out to US-based Gilead Sciences, Inc. the exclusive rights to develop and commercialize Carna's immuno-oncology drug discovery program worldwide. In connection with this agreement, Carna booked an upfront payment of USD20mn in Q2 FY12/19. The company will receive up to USD450mn more in milestone payments at key stages of progress in development and marketing as well as royalties based on sales after products go on the market. As well, the company will grant exclusive access to Carna's proprietary fundamental lipid kinase inhibitors discovery technology for a certain period for a fee to support Gilead's development in the above program.

#### SRA141 (AS-141)

Under these circumstances, the company successfully completed the Investigational New Drug (IND) filing process for the cancer drug candidate CDC7 inhibitor it developed and licensed-out to Sierra Oncology (AS-141; Sierra Oncology's development code: SRA141). Sierra is currently preparing for Phase I/II clinical trials targeting treatment of colorectal cancer. Under the terms of the license agreement, Carna will receive a milestone payment of USD4mn upon dosing of the first patient in the first phase I trial. Sierra announced that it is strategically considering a range of options to continue progressing development of SRA141. Carna expects Sierra to begin clinical trials of SRA141 shortly.

#### AS-871 and AS-1763

Carna is also conducting preclinical studies of two BTK inhibitor drug candidates, actively engaged in R&D toward applying for clinical trials in Europe and North America.

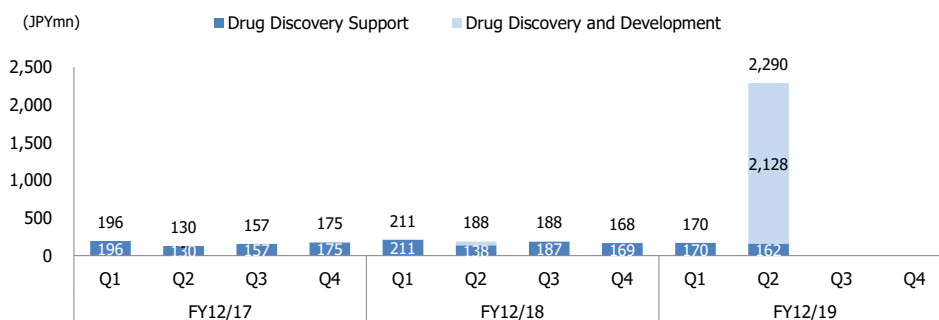
For AS-0871, a BTK inhibitor drug that targets immune-mediated inflammatory diseases such as rheumatoid arthritis, Carna has mostly completed toxicity and safety tests in compliance with good laboratory practice (GLP) standards for drug safety, aiming to make a clinical trial application (CTA) to begin clinical trials in Europe at an early date. The company is working with external organizations to complete preclinical trials as it prepares for filing CTA.

## Overview of Drug Discovery Support business

In the Drug Discovery Support business, Carna's second earnings pillar, sales personnel actively visited clients in various regions of Japan to identify additional needs. At the same time, the company conducted sales activities in North America to develop new clients. In terms of products, it fleshed out its lineup of biotinylated proteins, which are functional kinase proteins that only Carna manufactures.

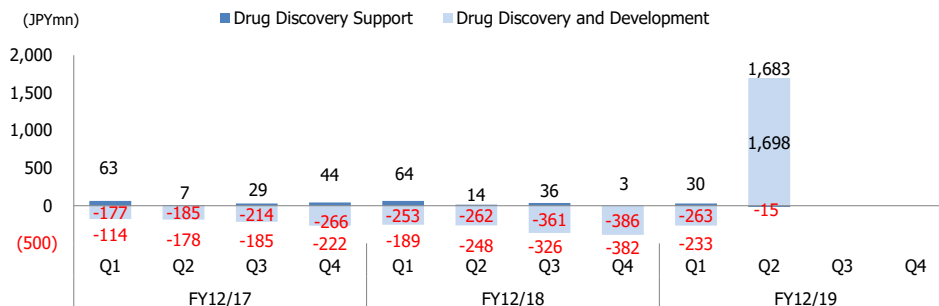
## Results by segment

### Sales by segment



Source: Shared Research based on company data

### Operating profit by segment



Source: Shared Research based on company data

## Drug Discovery and Development

- ▷ Sales: JPY2.1bn (sales of JPY50mn in 1H FY12/18)
- ▷ Segment profit: JPY1.4bn (loss of JPY515mn in 1H FY12/18)

Regarding its drug discovery program for novel cancer immunotherapies including the use of compounds discovered through its own R&D, Carna entered into an agreement under which it will license out to US-based Gilead Sciences, Inc. the exclusive rights to develop and commercialize Carna's immuno-oncology drug discovery program worldwide. In connection with this agreement, Carna booked an upfront payment of USD20mn in Q2 FY12/19. The company also aggressively invested upfront in drug discovery programs in the preclinical study stage.

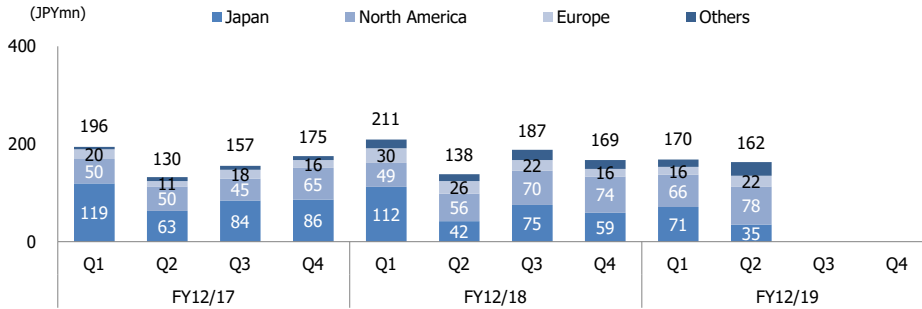
## Drug Discovery Support

- ▷ Sales: JPY332mn (-4.9% YoY)
- ▷ Segment profit: JPY15mn (-80.8% YoY)

In the Drug Discovery Support segment, the company sold kinase proteins, developed assays, and provided profiling, screening, and cell-based assay services.

By region, sales in Japan were JPY106mn (-30.9% YoY), North America JPY144mn (+36.7% YoY), Europe JPY38mn (-32.5% YoY), and other regions JPY43mn (+34.4% YoY).

### Drug Discovery Support sales by region



Source: Shared Research based on company data

### Drug Discovery Support sales by region

Sales by region (cumulative) (JPYmn)	FY12/17				FY12/18				FY12/19			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	196	326	483	658	211	349	536	705	170	332		
YoY	-13.0%	-5.2%	0.1%	-7.7%	7.7%	7.1%	11.0%	7.2%	-19.4%	-4.9%		
Japan	119	182	266	352	112	154	229	288	71	106		
YoY	-19.6%	-13.3%	-6.8%	-15.8%	-5.8%	-15.3%	-13.7%	-18.2%	-36.8%	-30.9%		
North America	50	100	145	210	49	105	175	249	66	144		
YoY	-9.1%	9.6%	8.2%	5.4%	-1.0%	5.5%	20.3%	18.5%	34.0%	36.7%		
Europe	20	31	49	65	30	56	78	94	16	38		
YoY	42.9%	-2.0%	4.5%	-9.2%	50.0%	81.5%	57.9%	45.2%	-47.2%	-32.5%		
Other	5	13	21	29	18	32	53	71	15	43		
YoY	-16.7%	28.6%	1.6%	31.7%	208.6%	145.8%	147.7%	145.0%	-12.8%	34.4%		
Sales by region (quarterly) (JPYmn)	FY12/17				FY12/18				FY12/19			
Sales	196	130	157	175	211	138	187	169	170	162		
YoY	-13.0%	9.7%	13.4%	-24.2%	7.7%	6.2%	19.1%	-3.3%	-19.4%	17.4%		
Japan	119	63	84	86	112	42	75	59	71	35		
YoY	-19.6%	1.6%	10.5%	-34.8%	-5.8%	-33.3%	-10.7%	-31.4%	-36.8%	-16.7%		
North America	50	50	45	65	49	56	70	74	66	78		
YoY	-9.1%	38.9%	4.7%	-	-1.0%	12.0%	55.6%	13.8%	34.0%	39.3%		
Europe	20	11	18	16	30	26	22	16	16	22		
YoY	42.9%	-38.9%	20.0%	-36.2%	50.0%	136.4%	22.2%	-	-47.2%	-15.4%		
Other	5	8	8	8	18	14	21	18	15	28		
YoY	-16.7%	100.0%	100.0%	-0.7%	208.6%	75.0%	162.5%	125.0%	-12.8%	100.0%		

Source: Shared Research based on company data

Note: Figures may differ from company data due to differences in rounding methods.

This note is the most recent addition to the [full report](#).

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