

*(Notes)

(1) Application of special accounting treatment in preparation of quarterly non-consolidated financial statements : None

(2) Changes in accounting policies, changes in accounting estimates, and restatements

1) Changes due to revised accounting standards : None

2) Changes due to revised accounting policies other than 1) : None

3) Changes in accounting estimates : None

4) Restatements : None

(3) Number of common shares issued

1) Number of shares issued
(including treasury shares)

As of June 30,2019	15,296,500	As of December 31,2018	15,296,500
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2) Number of treasury shares

As of June 30,2019	50	As of December 31,2018	50
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3) Average number of shares outstanding

For the first six months of FY2019	15,296,450	For the first six months of FY2018	12,796,450
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* This quarterly summary of consolidated financial results is excluded from quarterly review by certified public accountants or auditing corporations.

** Explanation concerning the appropriate use of forecasts and other special instructions

(Notice regarding forward-looking statements)

This press release includes forward-looking statements based on a number of assumptions and beliefs in light of the information currently available to management and subject to significant risks and uncertainties. Consequently, any statements herein do not constitute assurances regarding the actual results. Actual financial results may differ materially depending on a number of factors, including adverse economic conditions, currency exchange rate fluctuations, adverse legislative and regulatory developments, delays in new product launches, the pricing and product initiative of competitors, the inability of the company to market existing and new product effectively, interruptions in production, infringement of the company's intellectual property rights and the adverse outcome material litigation.

(How to view supplementary information at the financial results meeting)

On August 2, 2019, we plan to hold a financial results meeting for institutional investors and analysts.

Materials to be distributed at the meeting will be disclosed, using the Timely Disclosure network (TDnet), and on the day will be posted on our company website promptly after the meeting.

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1. Analysis of Operating Results and Financial Position

(1) Analysis of Operating Results

The Japanese economy in the second quarter of the current fiscal year appears to begin to level off in corporate earnings and the employment environment, as the effects of the government's economic and fiscal policies appeared to have come round to be finished. In addition to the weakness of consumer spending in Japan, concerns about the global economic situation, such as recession fears due to the consumption tax increase, destabilization of the surrounding regional situation, and an increase of vigilance against the trend of US trade policy, have not been dispelled yet and still uncertain.

In the Japanese pharmaceutical industry, the growth of the medical pharmaceutical market has slowed due to measures to curb medical expenses, and expansion in world markets by the development of global pharmaceutical products is becoming more important.

In such a business environment, the Company has been developing "the next-generation biopharmaceutical in-house development business" aiming to create higher value-added "next-generation logical vaccine" that is capable of higher efficacy and efficient production.

In "Next-generation Biopharmaceutical in-house development project", based on the agreement of the capital and business alliance signed with Shionogi & Co., Ltd. (hereinafter referred to as "Shionogi") on October 31, 2017, which includes fundamental core technology related to drug discovery regarding vaccine for preventing infection in humans, a part of the in-house development pipeline that the Company has been developing in next-generation biopharmaceutical development project, and new development candidates targets other than in-house developed pipeline as initial basic development candidates, the Company has been actively promoting R&D activities related to fundamental core technology and basic research on development candidates in order to achieve the third milestones based on the agreement. On May 22, 2019 after confirmed that the third milestones has been achieved based on the achievement status per semiannual, the Company has received a fee for this milestones in the second quarter. As of this disclosure date, after multiple small scale test production at Akita plant, in order to confirm adaptation for development candidates of new fundamental core technology, the Company has conducted several test production using the 600L full-scale fermenter started from the first quarter has acquired the necessary data, and has confirmed the adaptation to the expression of the target protein. In addition, the Company also has discussed with the authorities regarding the application of regulatory guidelines that are important in establishing basic technology, and has confirmed that contents of the current research and development are generally in line with regulatory guidelines. As a result of the above, development of fundamental core technology has advanced to the final maintenance stage. In addition, the timing of the fourth milestones to be achieved is expected in the fourth quarter of the current fiscal year. In addition, regarding the fundamental research of development candidates that the Company has been progressing in parallel, the Company has been studying on selection of **adjuvant and application of drug delivery technology. In a plurality of development candidates, the Company is about to acquire important knowledge concerning the creation of next generation logical vaccine. With regard to development candidates that are under priority consideration, the Company has generally determined a pharmaceutical package, and has started more specific studies of development plan including selection of candidate products. Based on the above progress, the Company has already started consultations with Shionogi for the second phase of the alliance, and activities for full-scale development has been steadily progressing.

The following in terms of the in-house development pipeline, in the basic research of development candidates in accordance with the partnership with Shionogi, has been promoting the research and development based on its own technology, and the selection of development candidates has been progressing. All progress as of this disclosure date is in basic research stage.

- UMN-101 : Recombinant seasonal influenza HA vaccine
- UMN-102 : Recombinant H1N1 influenza HA vaccine
- UMN-103 : Recombinant Rotavirus vaccine
- UMN-104 : Recombinant Norovirus vaccine

In addition, although the Company entered into the joint research agreement with National Institutes of Biomedical Innovation, Health and Nutrition (hereinafter referred to as “NIBIOHN”) as the period from June, 2017 to the end of June, 2019, in order to go ahead with research and development activities aimed at creating “Next-generation logical vaccine”, state-of-the-art biopharmaceuticals including new vaccine, by fusing new adjuvant seeds owned by NIBIOHN and manufacturing technology owned by the Company. The joint research period has been extended by the end of June 2020 to further study.

On the other hand, in terms of “the contract manufacturing business for biopharmaceuticals”, in addition to having an obligation to advance the business related to the first phase with Shionogi, since the Company are concentrating management resources on research and development activities in the first phases for the time being in order to prioritizing to make progress to the second phase, there were no orders for new projects.

Concerning the introduction of new development pipeline, through the achievement of the contracts from universities and public research institution so far, not only for consignment of manufacturing at the research stage but also for candidates that are expected to be productization that has come out, and the Company has been actively working on as one of the introduction routes of the newly developed pipeline.

As a result of the above, net sales for the first half of the current fiscal year amounted to ¥50,000 thousand (a decrease of 6.7% from the same period of the previous year). On the other hand, by recorded the R&D expenses related to business alliance with Shionogi, operating loss amounted to ¥342,869 thousand (Operating loss of ¥305,162 thousand in the same period of the previous year), ordinary loss amounted to ¥343,525 thousand (Ordinary loss of ¥307,329 thousand in the same period of the previous year), and net loss amounted to ¥344,556 thousand (Net loss of ¥388,253 thousand in the same period of the previous year).

In addition, since the Company has a single segment of R&D of medical drugs and related business, the description of business results by segment is omitted.

*Next-generation logical vaccine:

The next-generation logical vaccine that the Company has been aiming for is a development concept of vaccine, integrated recombinant protein antigen production technology, adjuvant technology and formulation/drug delivery technology, utilizing various knowledge, know-how and technology of biopharmaceutical technology platform, which has been developed for over 10 years by the Company.

By next-generation logical vaccine, the Company has been aiming at the realization of optimal high effectiveness and high productivity for a target infectious disease. In other words, by utilizing formation/drug delivery technology, it is possible to realize high effectiveness by inducing optimal immunity for each targeted infectious disease. In addition, by utilizing adjuvant technology, not only it is possible to realize high effectiveness with less antigen amount, but also it is possible to secure a supply amount that can cover the market with the Company’s current production system and also to contribute to cost reduction, by introducing efficiently producing recombinant protein antigens.

**Adjuvant: Pharmaceutical additives for the purpose of immunopotentiating to increase effectiveness of vaccine.

(2) Analysis of Financial Position

The financial position as of June 30, 2019 is as follows,

Total assets amounted to ¥839,971 thousand, which corresponds to a decrease of ¥337,401 thousand compared to the end of the previous fiscal year.

Current assets amounted to ¥740,365 thousand, which corresponds to a decrease of ¥336,959 thousand compared to the end of the previous fiscal year, mainly due to a decrease of ¥325,972 thousand in cash and cash deposits.

Non-current assets amounted to ¥99,606 thousand, which corresponds to a decrease of ¥442 thousand compared to the end of the previous fiscal year.

Liabilities amounted to ¥796,360 thousand, which corresponds to an increase of ¥1,121 thousand compared to the end of the previous fiscal year.

Net assets amounted to ¥43,611 thousand, which corresponds to a decrease of ¥338,523 thousand compared to the end of the

previous fiscal year, mainly due to net loss of ¥344,556 thousand incurred during the period.

Cash and cash equivalents position

The balance of cash and cash equivalents stood at ¥692,437 thousand, which corresponds to a decrease of ¥325,972 thousand compared to the end of the previous fiscal year.

(Cash flows from operating activities)

Net cash used in operating activities for the first six months of FY2019 totaled ¥326,772 thousand, mainly due to loss before income taxes of ¥343,525 thousand.(expenditure of ¥287,278 thousand in the same period of the previous year)

(Cash flows from investment activities)

Net cash provided by investment activities for the first six months of FY2019 totaled ¥800 thousand, due to proceeds from collection of guarantee deposits.(expenditure of ¥133,539 thousand in the same period of the previous year)

(Cash flows from financing activities)

No financing activities for the first six months of FY2019.(expenditure of ¥599 thousand in the same period of the previous year)

(3) Explanation of Non-consolidated Financial Results Forecasts and Other Forward-looking Information

There is no change from our financial results for the fiscal year ending December 31, 2019 released on February 14, 2019.

2. Quarterly Non-consolidated Financial Statements
(1) Quarterly Non-consolidated Balance Sheets

(Thousands of yen)

	As of December 31, 2018	As of June 30, 2019
Assets		
Current assets		
Cash and deposits	1,018,410	692,437
Raw materials	5,946	22,021
Other	52,968	25,905
Total current assets	1,077,324	740,365
Non-current assets		
Property, plant and equipment	80,605	80,605
Investments and other assets	19,442	19,000
Total non-current assets	100,048	99,606
Total assets	1,177,373	839,971
Liabilities		
Current liabilities		
Non-current liabilities		
Convertible bond-type bonds with share acquisition rights	715,200	715,200
Asset retirement obligations	23,469	23,644
Other	3,714	3,714
Total non-current liabilities	742,384	742,559
Total liabilities	795,238	796,360
Net assets		
Shareholders' equity		
Capital stock	679,415	679,415
Capital surplus	679,415	679,415
Retained earnings	(984,931)	(1,329,488)
Treasury shares	(197)	(197)
Total shareholders' equity	373,701	29,144
Share acquisition rights	8,433	14,466
Total net assets	382,134	43,611
Total liabilities and net assets	1,177,373	839,971

(2) Quarterly Non-consolidated Statements of Income

(Thousands of yen)

	Six months ended June 30, 2018	Six months ended June 30, 2019
Net sales	53,610	50,000
Cost of sales	1,677	—
Gross profit	51,933	50,000
Selling, general and administrative expenses	357,096	392,869
Operating loss	(305,162)	(342,869)
Non-operating income		
Interest income	3	6
Other	22	167
Total non-operating income	25	173
Non-operating expenses		
Interest on bonds	1,593	780
Issuance cost of subscription rights to shares	599	—
Foreign exchange losses	—	50
Total non-operating expenses	2,192	830
Ordinary loss	(307,329)	(343,525)
Extraordinary losses		
Impairment loss	80,605	—
Total extraordinary losses	80,605	—
Loss before income taxes	(387,935)	(343,525)
Income taxes - current	318	1,031
Total income taxes	318	1,031
Loss	(388,253)	(344,556)

(3) Quarterly Non-consolidated Statements of Cash Flows

(Thousands of yen)

	Six months ended June 30, 2018	Six months ended June 30, 2019
Cash flows from operating activities		
Loss before income taxes	(387,935)	(343,525)
Impairment loss	80,605	—
Issuance cost of subscription rights to shares	599	—
Share-based compensation expenses	2,321	6,033
Interest income	(3)	(6)
Interest on bonds	1,593	780
Other, net	15,855	12,001
Subtotal	(286,964)	(324,716)
Interest income received	3	6
Income taxes paid	(318)	(2,062)
Net cash provided by (used in) operating activities	(287,278)	(326,772)
Cash flows from investing activities		
Purchase of property, plant and equipment	(161,211)	—
Payments for guarantee deposits	(1,320)	—
Proceeds from collection of guarantee deposits	28,992	800
Net cash provided by (used in) investing activities	(133,539)	800
Cash flows from financing activities		
Net cash provided by (used in) financing activities	(599)	—
Net increase (decrease) in cash and cash equivalents	(421,417)	(325,972)
Cash and cash equivalents at beginning of period	1,734,272	1,018,410
Cash and cash equivalents at end of period	1,312,854	692,437