

September 10<sup>th</sup>, 2019

---

## **Nippon Shokubai Announces to Collaborate on Development of TAKC-02 and Expand a Capital Alliance with TAK-Circulator through Third Party Allotment**

NIPPON SHOKUBAI CO., LTD. (Headquarter: Osaka, Chuo-ku, President: Yujiro Goto, hereinafter “Nippon Shokubai”) announces that Nippon Shokubai and TAK-Circulator Corporation (Headquarter: Tokyo, Bunkyo-ku, President: Yasuhiro Nishi, hereinafter “TAK-Circulator”) have signed a Collaboration Agreement for the development of TAKC-02 (Development code) that is Gapmer-type antisense oligonucleotide for Steroid-resistant Severe Asthma. TAKC-02 is expected to suppress airway inflammation by controlling physiologically active substances involved in invasion and migration of Neutrophils and Eosinophils. Especially, this is the first drug for Neutrophilic severe asthma. In addition, Nippon Shokubai has decided to additional investment to TAK-Circulator through a third party allotment, and completed payment procedures.

(For the details of TAKC-02: <https://www.tak-circ.com/en/drug/>)

### 1. Background and Purpose of the Alliance

TAK-Circulator was established by collaborations through the institutions of the University of Tokyo. TAK-Circulator’s core businesses are microbiome analysis mainly based on next generation sequencing analysis and drug discovery.

Nippon Shokubai formed a capital alliance with TAK-Circulator in August 2016 to accelerate TAK-Circulator’s drug development business and has considered the possibility of collaboration with respect to development and manufacturing of these drugs between Nippon Shokubai and TAK-Circulator.

As a result of both progressing R&D of TAKC-02 at TAK-Circulator, and launching platform for contracted manufacturing at Nippon Shokubai, two companies have established business partnership and expanded the capital alliance. By supporting development of TAKC-02 and making it practical early through the alliance, Nippon Shokubai will contribute for society.

## 2. Outline of the Alliance

### (1) Business Alliance

Company	Main Role
TAK-Circulator	<ul style="list-style-type: none"><li>• Conducting Non-clinical studies and clinical studies</li><li>• Application for approval</li></ul>
Nippon Shokubai	<ul style="list-style-type: none"><li>• Manufacturing APIs for Non-clinical studies and clinical studies</li><li>• Supporting studies and application for approval</li></ul>

### (2) Capital Alliance

Class and numbers of shares to be subscribed : 16,000 shares of common stock

Share-holding after subscription : 35.28%

Payment date : September 10th, 2019

## 3. Outline of TAK-Circulator Corporation

Name	TAK-Circulator Corporation
Head Office	704 Entrepreneur plaza, 7-3-1 Hongo, Bunkyo-ku, Tokyo, Japan
Representative	Yasuhiro Nishi , President
Activity	1. Microbiome analysis business mainly based on next generation sequencing analysis. 2. Drug discovery business.
Capital	100 million yen
Established	January 17th, 2014
Numbers of shares outstanding	74,700 shares
End of fiscal year	December 31 <sup>st</sup>
Employees	15 (as of September 2019)
Website	<a href="http://www.tak-circ.com/en/">http://www.tak-circ.com/en/</a>

## 4. Forecast

Nippon Shokubai keeps on working to develop Health and Medical Business and contribute for society by promoting the development of Oligonucleotide drug through this alliance.

---

About NIPPON SHOKUBAI Co., Ltd.: Since 1941, Nippon Shokubai has grown up its business with unique catalyst technology. Nippon Shokubai has supplied, for example, ethylene oxide, acrylic acid, automobile catalysts, process catalysts and so on. Among all, our global market share of superabsorbent polymer is the largest in the world now. Nippon Shokubai is a global chemical company operating under its corporate mission "Providing affluence and comfort to people and society with our unique technology." <http://www.shokubai.co.jp/en/>

### 【Contacts】

Investor & Public Relations Dept.,

NIPPON SHOKUBAI CO., LTD.

TEL: +81-3-3506-7605 E-mail: [shokubai@n.shokubai.co.jp](mailto:shokubai@n.shokubai.co.jp)