



## The 2nd Japan Open Innovation Prize

Megakaryon Corporation, Otsuka Pharmaceutical Factory, Inc., Kyoto Seisakusho Co. Ltd., Satake Chemical Equipment Mfg., Ltd., and CMIC HOLDINGS Co., Ltd. have won the Minister of State for Science and Technology Policy Award for “Producing blood in factories- Aiming at the industrialization of regenerative medicine using iPS cells”

### • Overview

On 14 February, 2020, the Cabinet Office has awarded the Minister of State for Science and Technology Policy Award to Megakaryon Corporation (Head office: Shimogyo-ku, Kyoto; President: Kenichi Akamatsu; hereinafter “Megakaryon”), Otsuka Pharmaceutical Factory, Inc. (Headquarters: Naruto, Tokushima; President and Representative Director: Shinichi Ogasawara; hereinafter, “Otsuka Pharmaceutical Factory”), Kyoto Seisakusho Co., Ltd. (Head office: Fushimi-ku, Kyoto; Chairman and CEO: Susumu Hashimoto; hereinafter, “Kyoto Seisakusho”), Satake Chemical Equipment Mfg. Ltd. (Head office: Toda, Saitama; President: Mitsutoshi Nishioka ; hereinafter “Satake Chemical Equipment”) and CMIC HOLDINGS Co., Ltd. (Headquarters: Minato-ku, Tokyo; Chairman and CEO: Kazuo Nakamura; hereinafter "CMIC HOLDINGS") for “Producing blood in factories- Aiming to commercialize regenerative medicine using iPS cells”.

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| Award Name | Minister of State for Science and Technology Policy Award  |
| Theme      | Producing blood in factories- Aiming to commercialize regenerative medicine using iPS cells  |
| Awardee    | Megakaryon, Otsuka Pharmaceutical Factory, Kyoto Seisakusho, Satake Chemical Equipment, CMIC HOLDINGS  |
| Overview   | Platelet transfusion is a basic modality in medical treatment. Chronic shortage of platelet supply is feared due to donor-dependency and the short shelf life of about 4 days post-donation. To complement or replace blood donation, our consortium aims to build a stable platelet supply using iPS cells adopting open innovation, and intend to form the next-generation blood transfusion platform. |
| Purpose    | To create medical innovations that provide systematic and stable supply of platelet formulation developed from human induced pluripotent stem (iPS) cells that is safe and devoid of pathogenic contaminants for use in developed countries where blood products are expected to be insufficient as well as in developing countries where the supply is already in shortage.                             |

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| Content        | Based on the technologies invented at Kyoto University and Tokyo University, human iPS cells established from peripheral blood or umbilical cord blood of a donor are used as the starting material. The cells are then differentiated and expanded to form megakaryocyte master cells (MC), which are then used to produce large quantities of platelets. MC can be cryopreserved and grown indefinitely on demand. This reduces the burden on the donor for blood transfusion, wastage of donated blood and the sterility test costs involved. |
| Award Ceremony | Date and time: Thursday, 27th February, 2020 from 17:00 to 19:20<br>Venue: Central Government Building No. 8 (Cabinet Office) Auditorium   |

### ■ Comments from the awardees

#### 【Megakaryon: Genjiro Miwa, Founder and Chairman】

We are very honored to receive the award for our human iPS cell derived platelet preparation business. Megakaryon's initiative to commercialize regenerative medicine using iPS cells is supported by our partners who are joint recipients of this award. In order to utilize the untapped potential of iPS cells, open innovation that effectively utilizes the diverse knowledge and experience is indispensable. Together with our partner award-winning companies, we aim to provide iPS platelets to clinical sites as soon as possible, and be a model for future open innovation opportunities.

#### 【Otsuka Pharmaceutical Factory: Shinichi Ogasawara, President and Representative Director】

We are very honored to receive this award. Otsuka Pharmaceutical Factory aims to be the best partner of patients and healthcare professionals through the development and supply of innovative products. Leveraging technologies cultivated over many years as a leading Japanese company in infusions, we will continue to work together with Megakaryon and other companies to provide a stable supply of the world's first iPS-derived platelet.

#### 【Kyoto Seisakusho: Susumu Hashimoto, Chairman and CEO】

We are honored to receive this very wonderful prize. Our company specializes in manufacturing customized machines for the development of new products by customers in the field of food packaging machines. Making full use of our fundamental technologies and expertise we have accumulated over the time, we have been challenging areas that are completely different from food, such as lithium-ion battery assembly machines and non-contact tablet printing machines. Accepting Megakaryon's request for partnership in commercializing platelet production using human iPS cells, we are hoping to contribute to solving urgent social issues as a part of the open innovation platform.

#### 【Satake Chemical Equipment Mfg.: Mitsutoshi Nishioka, President】

We are truly honored to be one of the joint recipients of this award. Our company specializes in cell culture-related technology. With the guidance of the university-based iPS technology inventors and Megakaryon, we are developing equipment suitable for mass production of platelets from master cells, and based on this we have gained a lot of knowledge and experience useful for improvement of our technology. We will continue to cooperate with our partners in this consortium to commercialize the next-generation blood transfusion strategy that is safe and contributes to people around the world.

#### 【CMIC HOLDINGS: Keiko Oishi, Representative Director, President and COO】

We are truly honored to receive this wonderful award. CMIC Group provides our clients with comprehensive services in drug development and actively promotes open innovation to create new value in healthcare through innovative solutions. Encouraged by this award, CMIC Group will contribute further based on our experiences, know-how and knowledge gained over many years in pre-clinical and clinical trials, and will strive our best to provide patients with the required medical care as soon as possible.

### ■ About Japan Open Innovation Award

While global competition for innovation has been intensifying in the recent years, open innovation which promotes new initiatives by integrating knowledge, technologies and management resources beyond organizational barriers is becoming increasingly important for quick implementation of results from research and development activities to the real world in order to resolve social needs as well as to create new values. Under such circumstances, the Japan Open Innovation Prize was launched aiming at appreciating most leading and original initiatives expected to be used as future role models to further promote open innovations in Japan. In this award, we will award the Minister's Prize in each field in charge and the Chairman's Prize of economic organizations and academic organizations for those that are models, have large social impact, and exhibit sustainability in open innovation efforts. The best of the awards will be commended as the Prime Minister's Award.

(Cabinet Office website: <https://www8.cao.go.jp/cstp/openinnovation/prize/index.html>)