

Press Release

Astellas, Mitsubishi Tanabe Pharma, and Daiichi Sankyo Conduct “JOINUS,” a New Drug Discovery Program Using Drug-Repositioning Compound Library

Three Japanese pharmaceutical companies collaborate in facilitating drug discovery in Japan through open innovation sharing of compounds developed by the companies

Tokyo and Osaka, October 11, 2017 - Astellas Pharma Inc. (President and CEO: Yoshihiko Hatanaka; Headquarters: Tokyo; TSE: 4503; "Astellas"), Mitsubishi Tanabe Pharma Corporation (President and CEO: Masayuki Mitsuka; Headquarters: Osaka; TSE: 4508; "Mitsubishi Tanabe Pharma") and Daiichi Sankyo Company, Limited (President and COO: Sunao Manabe; Headquarters: Tokyo; TSE: 4568; "Daiichi Sankyo") today announced that the companies will jointly conduct a program called "JOINUS" (Joint Open INnovation of drUg repoSitioning) to discover new therapeutic drugs using drug-repositioning compound libraries. The JOINUS program will be carried out as a part of the companies' open innovation activities.

In the JOINUS program, Astellas, Mitsubishi Tanabe Pharma, and Daiichi Sankyo have generated compound library containing compounds for which development has been terminated after implementation of clinical or preclinical studies and will offer the library as a drug-repositioning compound library to Japanese research institutions accepted to the program for evaluation via their respective *in vitro*¹ assays.

In general, drug repositioning is a concept of drug reutilization and is intended to find indications different from the initially targeted one, and various compounds including marketed drugs and those for which development has been terminated are examined in drug repositioning. In contrast, the JOINUS program is intended to develop new drugs from compounds that were not marketed.

In compound libraries previously provided to academia, a wide range of compounds have been collected, including those for which pharmacological activities or safety profiles have not been established yet, in consideration of structural diversity of compounds. Conversely, compounds contained in this library are those for which their pharmacological activities have been demonstrated and their basic safety profiles have been confirmed. Therefore, if a compound in the library is found to have a beneficial pharmacological activity in a new assay, the compound is expected to enter clinical trials in a shorter period of time as compared with general drug discovery approaches.

Astellas, Mitsubishi Tanabe Pharma, and Daiichi Sankyo hope that they will enhance the possibility of developing new therapeutic drugs by facilitating open innovation with research institutions in Japan through the use of the generated drug-repositioning compound library.

Overview of JOINUS

Eligible applicants: Researchers who belong to research institutions (e.g., universities, public research organizations, and private-sector companies including ventures) in Japan and can conduct research on the applied research themes in Japan.

Data provided: Drug-repositioning compound library generated by the 3 companies (?50 mechanisms of action)

No research funding is provided in the JOINUS program.

Application period: October 16, 2017, to November 17, 2017.

Selection period: November 20, 2017, to February 16, 2018.

Research period: Up to 1 year from the date of the contract

For more information, please visit websites of the companies. Japanese Only. (The information provided on each company's website is the same; applications will be accepted by any of the companies.)

- Astellas: www.astellas.com/en/corporate/news/detail/astellas-mitsubishi-tanabe-pha.html
- Mitsubishi Tanabe Pharma: open-innovation.mt-pharma.co.jp/joinus/
- Daiichi Sankyo: <http://www.daiichisankyo.co.jp/corporate/rd/open/joinus/index.html>