
FIRST EXPERIMENTS IN SPACE FOR COVID-19 DRUG RESEARCH WITH KIRARA

In June 2020, a consortium has been initiated by InnoStudio Inc. (HU) for the development and validation of highly efficient active compounds against SARS-CoV-2 while conducting drug discovery simultaneously and in a synchronized manner in space and on Earth.

InnoStudio will launch their samples of remdesivir-SBECD to the International Space Station (ISS), using the commercial service "Kirara" provided by Japan Manned Space Systems Corporation (JAMSS), which is to be launched in December 2020 (Kirara#2). This is the first space experiment for COVID-19 drug discovery research in the world*.

*by investigation of JAMSS and InnoStudio

Remdesivir, to be applicable for its intravenous infusion, requires formulation by the excipient cyclodextrin called SBECD. Although it is considered today as one of the most promising drugs for COVID-19 treatment, remarkable efficacy of remdesivir-SBECD complex has not yet been confirmed. This mission aims to deepen our understanding of the mechanism of remdesivir-SBECD formulation by studying the effect of microgravity on the complex formation properties of remdesivir and SBECD.

About Kirara

Kirara is a high-quality protein crystal growth service provided by JAMSS for drug discovery support. This technology was realized through a technical tie-up with Confocal Science, which has been supporting protein crystal generation on ground and in space since its foundation in 1994. The small incubator, which JAMSS developed and in which crystals are grown, is launched through the ICE Cubes Service and accommodated in the ICE Cubes Facility (ICF) owned by Space Applications Services who has a commercial partnership with the European Space Agency (ESA). Kirara is a commercial service partnership between Japanese and European companies. It could be applied to the field of materials such as cellulose as well as drug discovery support.



Kirara service URL: <https://www.jamss.co.jp/en/kirara/index.html>

About JAMSS

Japan Manned Space Systems Corporation (JAMSS), founded in 1990, is working for the operations and utilization of the Japanese Experiment Module "Kibo" at the International Space Station and has gained extensive manned space technology experience as a leading company of human space flight in Japan.

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