



### Lunar and Mars Exploration

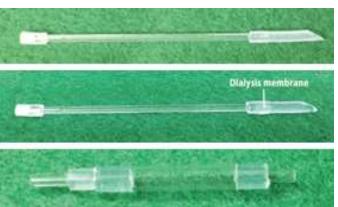
The future is lunar and Mars exploration. Confocal Science is contributing to space exploration by proposing next-generation concepts and technology elements based on its experience in space experiments.

### **Products for LEO Experiments**

Confocal Science has 30 years of experience in LOE experiments. In particular, the containers made of plastic sheets in three-dimensional bags are highly reliable, with more than 800 used in more than 25 space experiments.



Left: 3-cell type, right: 6-cell type. Cells are filled with solution, loaded with an inner container filled with crystallization sample, and heat-sealed.



Typical inner container

Standard capillary for counterdiffusion

Standard capillary for dialysis method

Large bore capillary



# **Space Experiment Services**

Confocal Science is entrusted with technical support services for space experiments based on our past experience: services from planning and application of space experiments to optimization of experimental conditions for space experiments, filling of samples, execution of space experiments, collection of samples, and return of samples to customers.

## Products for ground Experiments

Based on the experience with space experiments, experimental devices and software that are useful in ground-based laboratories are developed.

## C-Kit Ground Pro: High Quarity protein crystallization kit

Two types of the kit, one for X-ray diffraction experiment and the other for neutron diffraction experiment, are available.

#### C-Kit Pro Advanced Tool

The kit includes a capillary holder, C-Profile, and crystallization condition optimization software, which are useful when picking out crystals from the capillary with C-Kit Ground Pro.

### C-ACC: Active Crystallization Unit

An active dialysis crystallizer that allows the crystallization solution to be exchanged with a micropump.

#### C-Bag DX : Anaerobic culture bag

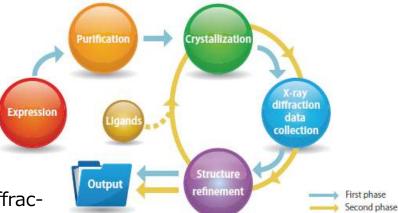
The combination of the bag made of gas barrier material and oxygen absorber can provide a de-oxygenated culture at low cost.



## Ground Experiment Services

#### C-Platform

Based on the experiences of the space experiments, Confocal Science provides a comprehensive service for protein structure analysis either on a lump-sum basis or on a process-by-process basis.



#### C-Collection

Confocal Science provides X-ray diffraction data acquisition services using the Diamond Light Source, a synchrotron radiation facility in the UK.



### C-Clinic

An interactive service to find the best solutions for a customer's crystallization. Choose from either or both of the services.

#### Non Protein Transfer Service

After receiving the calculations from C-Profile and some basic information on the target protein, for a base fee, a crystallization kit with several kinds of optimized crystallization solutions and instructions will be provided. If a fine crystal grows, the crystallization conditions will be disclosed with a contingency fee.

#### Protein Transfer Service

The customer is expected to provide a small amount of the protein sample under a material transfer agreement. It will be evaluated and the recomendations for the sample preparation and the preferable crystallization method and condition will be reported.



### STEM Education

Active learning materials for high school students on the subject of protein crystallization, C-Kit Education to learn science science literacy through protein crystallization in the classroom with the teacher, and C-Kit Space for students to crystallize in the microgravity environment of the International Space Station (ISS) are provided.







Confocal Science is contracted to provide active learning semminer support services using these kits. Please contact us for more information.



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