

Subject header: Commissioning call for the chameleon/Talos

Requirements

The chameleon has been shown to help with preferred orientation and denaturation problems that are routinely found when freezing cryo-EM grids. As such we are particularly interested in freezing proteins with a known preferred orientation or on grid aggregation, decomplexation and/or denaturation problem.

With this in mind we would ideally like to see both raw cryo-EM images and 2D class averages in the proposal. However, we will also consider scientific value and likelihood of success. The chameleon is very efficient in terms of protein quantities required for freezing, however, similar to other spraying devices it does require the protein to be at a higher concentration than for traditional freezing approaches.

We would recommend sending at least 3 x 10 ul tubes of concentrated protein and separate buffer for dilution if required. Please discuss your sample requirements with eBIC prior to sending.

Visit structure

Visits can be onsite or remote.

The visit will be 2 days. The first morning will be spent freezing on the chameleon and the afternoon on the eBIC Talos microscope to assess sample concentration and general grid quality. With suitable particle distribution, the intention is to collect a test dataset.

Data from day one will allow further optimisation and freezing of additional samples on day two if required.

If the particle is improved by screening on the chameleon, grids can be returned to the user or stored at eBIC for subsequent krios data collection through standard routes, i.e., BAG, RAPID, iNEXT, etc. After the visit the user will be required to provide feedback in the form of information on grid quality including example images of the atlases, grid squares, holes and of course details of gains or otherwise compared to conventional methods.

Follow up information, including details of publications must also be provided. This will help develop protocols and improve workflows for future visits and provide feedback on the performance of the chameleon.

Kind regards,
eBIC and RFI Teams

For inquires please contact david.owen@diamond.ac.uk daniel.clare@diamond.ac.uk