STRUCTURAL BIOLOGY COMMUNICATIONS
ISSN 2053-230X

Tricks and tips for trips

Mark J. van Raaij*

Centro Nacional de Biotecnologia – CSIC, calle Darwin 3, E-28049, Madrid, Spain. *Correspondence e-mail: mjvanraaij@cnb.csic.es

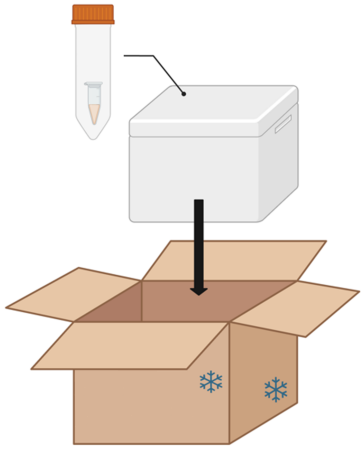
Keywords: tricks and tips; sample preparation; transport of samples; structural biology.

In this August issue of *Acta Crystallographica F, Structural Biology Communications*, a Topical Review discusses how to transport or send biological samples to structural biology research facilities for measurements (Bowman *et al.*, 2024). As the authors mention, between nucleic acid design, protein expression and macromolecule conditioning, a lot of time, effort and money will have been spent on the project before the samples start their trip to the research facility. The project will often have necessitated a significant amount of trial-and-error experimentation. A lot of time, effort and money will also have been invested into the research facility and end-station, making it important to waste as little measurement time as possible by sending high-quality samples and having samples arrive in optimal condition.

The Topical Review covers, in a highly practical fashion, how best to prepare samples for travel, including which containers, travel boxes or dry-shippers to use. Specific sections explain how to treat samples for small-angle scattering (SAXS), for crystallization trials, for X-ray diffraction measurements and for cryo-electron microscopy. A specific tip I found useful is how to treat dry shippers between trips so that they last as long as possible, both in keeping the temperature at liquid nitrogen levels for as long as possible and in relation to the lifetime of the dewar. NMR spectroscopy is not specifically included, but many of the recommendations also translate to this technique.

The Editors of *Structural Biology Communications* feel that this Topical Review will be of use to all structural biologists that do experimental work and recommend its reading. We also welcome submission of more Topical Reviews to our journal (Helliwell *et al.*, 2021) that will be useful to our readers. This Topical Review was commissioned from the SAMPREP sample preparation workshop at the 73rd ACA Annual Meeting celebrated in July 2023 in Baltimore, Maryland, and we intend to commission more manuscripts from other structural biology gatherings.

The manuscript also fits well with our focus on short Methods Communications (Newman & van Raaij, 2019). A lot of practical knowledge is 'hidden' in structural biology labs, and sharing this information through a Methods Communication opens it up to the world. Small labs, new PIs or groups new to structural biology will find these papers useful, and for the authors, publishing them may lead to new collaborations and increased esteem in the structural biology community.



References

Bowman, S. E. J., Byrnes, J., Russi, S. & Zimanyi, C. M. (2024). *Acta Cryst.* F**80**, https://doi.org/10.1107/S2053230X24006174.

Helliwell, J. R., Newman, J. & van Raaij, M. J. (2021). *Acta Cryst.* F**77**, 385.

Newman, J. & van Raaij, M. J. (2019). *Acta Cryst.* F**75**, 529–530.