

# Optimization of Bio-sample Preparation for Soft X-ray Tomography

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Soft X-ray tomography (SXT) is a new imaging technique to observe the ultrastructure of organelle with three dimensional hydrated cell in nearly native state. However, cryo-sample preparation in SXT is a key point to get good quality of images.

In this study, we try to optimize several steps in cryo-sample preparation to obtain high quality samples for SXT images. For example, to create the favorable environment of cells on gold grid, we use different treatments to modify the surface of grids. Besides, to have a good imaging alignment and reconstruction, we change the solution type and disspreading timing of gold markers before dropping the markers on the grids. Moreover, to avoid the ice crystal formation, we adjust blotting time and position of filter paper on samples before freezing. After optimizing the steps, we could set up a best standard operating procedure of preparing biological cryo-samples for SXT.

## References:

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