Locating Specific Structures, Molecules or Events in Cells by Correlative Cryo-3D X-ray Imaging

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ABSTRACT

Cryo soft X-ray tomography (SXT) of whole hydrated cells in the water window energy range can provide relevant structural information of complex cellular phenomena with chemical sensitivity at spatial resolutions of 40 nm [1, 2, 3]. Functional studies can be achieved by correlating this information with visible light fluorescence microscopy on the same cell. Cryo-SXT can also be combined with 2D and 3D cryo hard X-ray fluorescence to localize and quantify for instance specific drugs within the cellular landscape [4, 5]. Examples of correlative cryo-SXT research will be presented.

REFERENCES

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