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January 22, 2018

To:
Jialan Zhang, Ph.D.
Science Editor
JoVE

Dear Dr. Zhang,

Following your invitation, we are submitting the manuscript "Contrast-Matching Detergent in Small-Angle Neutron Scattering Experiments for Membrane Protein Structural Analysis and *Ab Initio* Modeling" for publication in *JoVE*. The presented methods are uniquely capable of determining solution structures of intrinsic membrane proteins by eliminating any measurement signal perturbations from associated detergent molecules. The methods are generally applicable for studying membrane proteins and interactions between such proteins and their binding partners or substrates etc. The specific example in this protocol demonstrates how to obtain a low-resolution *ab initio* model and structural details of a detergent-solubilized membrane protein—MmIAP, an intramembrane aspartyl protease from *Methanoculleus marisnigri*—in solution using small-angle neutron scattering with contrast-matching of the detergent.

This is a new manuscript, which has not been submitted elsewhere for publication. All coauthors have reviewed the final manuscript and approve its submission to *JoVE*.

Sincerely,

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