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Study of V-ATPase subunit "a" interactions using bi-layer interferometry

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Subunit "a" is associated with the membrane-bound (VO) complex of eukaryotic V-ATPase acidification machinery. It has also been shown recently to be involved in diverse membrane fusion/secretory functions independent of acidification. Here we have used a relatively new technique called as bi-layer interferometry (BLI) to characterize its interaction with different SNARE proteins involved in membrane fusion. BLI is an optical biosensing technique that yields similar data but operates on a different physical principle from BIACORE. Like BIACORE, BLI measures changes near a surface that reflect the association and dissociation of biomolecules. Results indicate binding of subunit "a" in the medium affinity μM range with proteins involved in membrane fusion, consistent with the result of pull down assays. All these values also indicate that since none of these interactions are very tight, they provide ample opportunity for mutual binding, depending on the concentrations available in the cellular milieu.

Biography

Sankaranarayanan Srinivasan finished his Ph.D. at the University of Texas Graduate School of Biomedical Sciences, Houston Texas. He is currently at Baylor College of Medicine, Houston working on the structural studies of V-ATPase subunit "a". He has so far published 10 papers in reputed journals in the fields of structural biology, protein chemistry and x-ray crystallography. He serves on the editorial board of two international journals and frequently reviews manuscripts for prestigious journals like *PloSONe, JMB* and *BBA-Biomembranes*.

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