



Colloquium

Institute Colloquium: Expanding the cellular interactome: protein-lipid networks

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Host:

Eukaryotic cells use membrane-bounded organelles with unique lipid and protein compositions to regulate and spatially organize cellular functions and signalling. As part of this tight control, many proteins are regulated by lipids. In humans, the importance of these regulatory circuits is evident from the variety of disorders arising from altered protein lipid interactions, which constitute attractive targets for pharmaceutical drug development. However, the full repertoire of interactions remains poorly explored and exploited because their detection is still difficult to achieve on a large, systematic scale. I will describe a series of chemical biology approaches to characterize *in vivo* assembled, stable protein-lipid complexes and to study lipid interactions with peripheral membrane proteins. Data from yeast and human cell lines reveal surprising insights, such as the discovery of a new family of oxysterol-binding protein, conserved in humans (where it has been linked to several diseases) with unexpected specificities for an important signaling lipid, phosphatidylserine. The assays are scalable to the proteome and/or lipidome levels and are easily adapted to the study of small-molecules that disrupt protein lipid interactions.

Monday, November 10, 2014 04:30pm - 05:30pm

Raiffeisen Lecture Hall, Central Building



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