

116d Crystallization of Integral Membrane Proteins

Michael C. Wiener

Membrane proteins comprise 15-30% of the proteins of an organism, and are important both for their fundamental functions and for their biomedical relevance. The majority of current and future drug targets are integral membrane proteins. The elucidation of membrane protein structures by x-ray crystallography is a frontier area of structural biology. With essentially no exception, membrane proteins are solubilized by detergents that mimic and replace the native lipid membrane environment; the protein-detergent complex (PDC) is the entity that is crystallized. Characterization of the detergent portion of the PDC is important for crystallization; moreover, evidence exists for the relevance of detergent phase behavior in membrane protein crystallization. We are utilizing this phase behavior in the design of crystallization screens. These approaches and other aspects of membrane protein crystallization will be described.