

The Most Comprehensive Optimization Kit for Membrane Protein Extraction

Membrane Protein Solubilization Kit

Structural and functional studies of membrane proteins generally require protein solubilization. Typically, membrane proteins are extracted from the native lipid bilayer with an amphiphile such as a detergent. However, detergents cannot always mimic the native lipid bilayer environment, resulting in protein aggregation and loss of function. Optimized extraction conditions require testing different extraction formulas, which vary with the protein of interest and cell type. To assist researchers in identifying optimal cell lysis conditions, the Genlantis Membrane Protein Solubilization Kit assembles the largest collection of different detergents commercially available and provides a cost-effective way to achieve the most comprehensive extraction optimization.

Optimizer's Dream Come True.

When it comes to optimization, breadth of the conditions is key. Many factors affect optimized extraction conditions. In general, nonionic and zwitterionic detergents are milder than ionic detergents and thus better at maintaining protein function. Sometimes, depending on the application, a detergent that is good for one purpose may not be suitable for another. For example, CHAPS is excellent for stabilizing membrane proteins in solution, but is known to be

Table 1. Detergents Provided with the Membrane Solubilization Kit

Cationic Detergents: Cetylpyridinium chloride Cetyltrimethylammonium bromide	Anionic Detergents: N-Lauroylsarcosine-sodium salt Lithiumdodecyl sulfate Sodium cholate, Sodium deoxycholate SDS (Sodiumdodecylsulfate)
Non-ionic Detergents: Brij, 35Deoxy-BIGCHAP, HECAMEG MEGA-8, MEGA-9, Pluronic F-68 n-Octyl-beta-D-glucopyranoside Saccharose monolaurate, Nonidet P40 Triton X-100, Triton X-114, Tween 20, Tween 80	Zwitter-ionic Detergents: CHAPS, CHAPSO Sulfobetaine SB8, Sulfobetaine SB10 Sulfobetaine SB12, Sulfobetaine SB14 Sulfobetaine SB16

inappropriate for growing crystals for structural studies. In addition, pH, salt concentration, and temperature can all affect the efficiency of extraction. Finally, if the detergent must be removed after extraction, it should be easily dialyzable. The collection of 27 detergents included in the Membrane Protein Solubilization Kit range from ionic and non-ionic to zwitter-ionic detergents (Table 1). These detergents are carefully selected based on years of protein extraction experience. They provide you with instant access to a panel of lipids with a wide range of properties so that you are sure to find the best extraction condition.

Convenient and Cost-Effective Solution.

The Membrane Protein Solubilization Kit is supplied in a convenient format to facilitate your optimization experiments. Each kit contains 4 ml stock solutions of 27 detergents at 4% (except for sulfobetaine SB16 with a concentration of 2%). In addition, 3 buffers, Tris-HCl, NaHEPES, NaPB, are

provided at 1 M concentration, each at two different pH values (7.5 and 8.0). With all these reagents ready to go at your fingertips, optimization is made hassle-free. Furthermore, you do not need to waste money to purchase large quantities of detergents that you potentially would never use again if they do not perform well in the optimization.

Complete Kit Ensures Results.

If you are working with insoluble membrane proteins, the Genlantis Membrane Protein Solubilization Kit is the ultimate tool for optimization of extraction conditions. It will give you the confidence that you are using the best condition to solubilize your protein without putting a dent in your budget. For more information or to order the kit, contact Genlantis today.

Membrane Protein Solubilization Kit		
	Cat. No.	Price
1 kit	MT101JB	\$375