

Membrane proteins represent the largest class of proteins in the human genome, and are targets for a majority of all currently marketed therapeutic agents, as well as ongoing drug discovery efforts. Efficient and reliable production of these proteins is critical for high-throughput screening applications, drug discovery and design, structural biology, and biochemical and biophysical analysis of structure and function. Designed as a research-level guide to current strategies and methods of membrane protein production on the small to intermediate scale, this practice-oriented book provides detailed, step-by-step laboratory protocols as well as an explanation of the principles behind each method, together with a discussion of its relative advantages and disadvantages.

Following an introductory section on current challenges in membrane protein production, the book goes on to look at expression systems, emerging methods and approaches, and protein specific considerations. Case studies illustrate how to select or sample the optimal production system for any desired membrane protein, saving both time and money on the laboratory as well as the technical production scale. Unique in its coverage of "difficult" proteins with large membrane-embedded domains, proteins from extremophiles, peripheral membrane proteins, and protein fragments, this is essential reading for biochemists, molecular biologists, and biotechnologists, as well as those working in the biotechnological and pharmaceutical industries.



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