

Contents

1	Dance Lessons for Proteins: The Dynamics and Thermodynamics of a Sodium/Aspartate Symporter	1
	Olga Boudker and Nurunisa Akyuz	
2	Characterizing the Structure, Function, and Evolution of Human Solute Carrier (SLC) Transporters Using Computational Approaches	23
	Avner Schlessinger	
3	Structures of the Prokaryotic Galactose Transporter vSGLT and Their Implications on Alternating Access Mechanism in Human SGLT1	59
	Jeff Abramson, Aviv Paz, and Armand S. Vartanian	
4	Moving Crystallographic Snapshots: A Mechanism for Transport Regulation in BetP	79
	Christine Ziegler and Reinhard Krämer	
5	Development of Refined Homology Models: Adding the Missing Information to the Medically Relevant Neurotransmitter Transporters	99
	Thomas Stockner, Andreas Jurik, René Weissensteiner, Michael Freissmuth, Gerhard F. Ecker, and Harald H. Sitte	
6	The Life and Times of Lac Permease: Crystals Ain't Everything, but They Certainly Do Help	121
	M. Gregor Madej and H. Ronald Kaback	
7	Alternating Access Within the POT Family of Oligopeptide Proton Symporters	159
	Simon Newstead	

8	The Maltose ABC Transporter: Where Structure Meets Function	181
	Cédric Orelle, Michael L. Oldham, and Amy L. Davidson	
9	Cooperative Transport Mechanism and Proton-Coupling in the Multidrug Efflux Transporter Complex ArcAB-TolC	207
	Hi-jea Cha and Klaas Martinus Pos	
10	What Can a Living Fossil Tell Us About Evolution and Mechanism of Ion-Coupled Transporters: The Story of Small Multidrug Transporters	233
	Shimon Schuldiner	
11	Symmetrically Asymmetric: EmrE Seen from the NMR Perspective	249
	Johanna Becker-Baldus and Clemens Glaubitz	