

1. Record Nr.	UNINA9911019996703321
Titolo	Gramicidin and related ion channel-forming peptides // [editors, Derek J. Chadwick and Gail Cardew]
Pubbl/distr/stampa	Chichester ; ; New York, : Wiley, 1999
ISBN	9786612455261 9781282455269 1282455265 9780470515716 0470515716 9780470515723 0470515724
Descrizione fisica	1 online resource (286 p.)
Collana	Novartis Foundation symposium ; ; 225
Altri autori (Persone)	ChadwickDerek CardewGail
Disciplina	572.65 572/.65
Soggetti	Gramicidins Ionophores Ion channels
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	GRAMICIDIN AND RELATED ION PEPTIDES CHANNEL-FORMING; Contents; Participants; Introduction: gramicidin, a model ion channel; Correlations of structure, dynamics and function in the gramicidin channel by solid-state NMR spectroscopy; X-ray crystallographic structures of gramicidin and their relation to the Streptomyces Zividuns potassium channel structure; General discussion I; Design and characterization of gramicidin channels with side chain or backbone mutations; Engineering charge selectivity in alamethicin channels; Lorentzian noise in single gramicidin A channel forrnarnidiniurn currents Can we use rate constants and state models to describe ion transport through gramicidin channels?The binding site of sodium in the

gramicidin A channel; The mechanism of channel formation by alamethicin as viewed by molecular dynamics simulations; General discussion I1; Ionic interactions in multiply occupied channels; Peptide influences on lipids; Peptide-lipid interactions and mechanisms of antimicrobial peptides; Folding patterns of membrane proteins: diversity and the limitations of their prediction
Molecular basis of the charge selectivity of nicotinic acetylcholine receptor and related ligand-gated ion channels
The gramicidin-based biosensor: a functioning nano-machine; Final general discussion; Summary: what we have learned about gramicidin and other ion channels; Index of contributors; Subject Index

Sommario/riassunto

Gramicidin channels have been studied intensively for more than 25 years. They serve as model transport systems for large protein ion channels, since it is difficult to glean high-resolution structural information on the latter. This book includes contributions from virtually all the major scientists studying gramicidin channels and is the only compilation of work in this field. It discusses crystallographic, spectroscopic, electrophysiological and computational studies, especially in the light of the recent availability of high-resolution structural data, and it compares these with insight
