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Titolo	Mucosal Delivery of Biopharmaceuticals [[electronic resource]] : Biology, Challenges and Strategies // edited by José das Neves, Bruno Sarmiento
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Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Concepts in Mucosal Immunity and Mucosal Vaccines -- Mucoadhesion and Characterization of Mucoadhesive Properties -- Mucus as a Barrier for Biopharmaceuticals and Drug Delivery Systems -- Epithelial Permeation and Absorption Mechanisms of Biopharmaceuticals -- Oral Delivery of Biopharmaceuticals -- Buccal Delivery of Biopharmaceuticals: Vaccines and Allergens -- Pulmonary Delivery of Biopharmaceuticals -- Nasal Delivery of Biopharmaceuticals -- Ocular Delivery of Biopharmaceuticals -- Vaginal Delivery of Biopharmaceuticals -- Nanoparticles-in-Microsphere Oral Delivery Systems (NiMOS) for Nucleic Acid Therapy in the Gastrointestinal Tract -- Bacteria-Based Vectors for Oral Gene Therapy -- Self-Assembled Polysaccharide Nanogels for Nasal Delivery of Biopharmaceuticals -- Pheroid™ Vesicles and Microsponges for Nasal Delivery of Biopharmaceuticals -- Delivery Strategies for Developing siRNA-Based Vaginal Microbicides -- Delivery Strategies for Developing Vaginal DNA

Vaccine Combining Cell-Penetrating Peptides and Jet Injection -- Vaccine Delivery Systems for Veterinary Immunization -- Eligen® Technology for Oral Delivery of Proteins and Peptides -- The RapidMist™ System for Buccal Delivery of Insulin -- The Pharmaceutical Development of rhDNase (Dornase Alpha) for the Treatment of Cystic Fibrosis -- Development of the Exubera® Insulin Pulmonary Delivery System -- Technosphere®: An Inhalation System for Pulmonary Delivery of Biopharmaceuticals -- ChiSys® as a Chitosan-Based Delivery Platform for Nasal Vaccination -- Development of a Cationic Nanoemulsion Platform (Novasorb®) for Ocular Delivery -- Regulatory Aspects and Approval of Biopharmaceuticals for Mucosal Delivery: Quality, Toxicology and Clinical Aspects.

Sommario/riassunto

This book provides a concise and up-to-date overview of the biological features justifying the use of different human mucosa as delivery routes for biopharmaceuticals as well as the technological strategies that have been followed so far regarding the optimization of mucosal potentialities. The book also addresses the challenges that arise with the advent of new biopharmaceutical drugs and alternative means of administration. After a brief introduction, the first section addresses general aspects of the biology of mucosal tissues and their unique aspects towards beneficial or deleterious interactions with biopharmaceuticals and delivery systems. The second part is dedicated to the different delivery strategies that have recently been investigated for different mucosal sites. The third section describes the development and clinical applications, either factual or potential, of particular pharmaceutical delivery systems and products enclosing biopharmaceuticals for mucosal delivery. Special focus is set on the most successful case studies of recent years by field experts or those engaged in developing such solutions in a concise and practical way. The last section briefly centers on pertinent aspects about the regulatory, toxicological and market issues of mucosal delivery of biopharmaceuticals. José das Neves is a researcher at Instituto Superior de Ciências da Saúde-Norte, CESPU, Gandra, and in the Faculty of Pharmacy, University of Porto, Portugal, where he earned a Ph.D. in Pharmaceutical Sciences. His previous work has spanned multiple aspects of the development of vaginal drug delivery systems, and his current research interests include the development of nanotechnology-based solutions for the development of anti-HIV microbicides and mucosal delivery of biopharmaceuticals. Bruno Sarmento is an affiliated researcher at INEB – Instituto de Engenharia Biomédica, University of Porto, Portugal. He is also an assistant professor of pharmaceutical and biopharmaceutical technology at Instituto Superior de Ciências da Saúde-Norte, CESPU, Gandra, Portugal. He earned a Ph. D. in Pharmaceutical Technology at the University of Porto. He has extensive work in the development of nanocarriers for the oral delivery of biopharmaceuticals—namely insulin—and the establishment of novel in vitro intestinal permeability models. His current research focuses on nanomedicines and their applications in the pharmaceutical and biomedical fields.
