# **Lipid-Based Drug Delivery Systems**

**Principles and Applications** 

edited by

Bhupendra Prajapati | Jayvadan Patel







## **Lipid-Based Drug Delivery Systems**

### **Principles and Applications**

edited by **Bhupendra Prajapati Jayvadan Patel** 



#### Published by

Jenny Stanford Publishing Pte. Ltd. 101 Thomson Road #06-01, United Square Singapore 307591

Email: editorial@jennystanford.com

Web: www.jennystanford.com

#### **British Library Cataloguing-in-Publication Data**

A catalogue record for this book is available from the British Library.

#### **Lipid-Based Drug Delivery Systems: Principles and Applications**

Copyright © 2024 by Jenny Stanford Publishing Pte. Ltd.

All rights reserved. This book, or parts thereof, may not be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system now known or to be invented, without written permission from the publisher.

For photocopying of material in this volume, please pay a copying fee through the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA. In this case permission to photocopy is not required from the publisher:

ISBN 978-981-4968-92-8 (Hardcover) ISBN 978-1-003-45981-1 (eBook)

			Contents	xxiii
	16.4	Introduction to Lipids	597	
		16.4.1 Classification of Lipids	597	
		16.4.1.1 Solid lipids	598	
		16.4.1.2 Liquid lipids	598	
		16.4.2 Lipid Formulation Classification		
		System	599	
	16.5	Role of Lipids in Formulation	600	
		16.5.1 Excipients Used in LBFs	601	
	16.6	Lipid-Based Formulation for Ophthalmic		
		Delivery	602	
		16.6.1 Nanoparticles	602	
		16.6.2 Liposomes	603	
		16.6.3 Niosomes	605	
		16.6.4 Nanomicelles	606	
		16.6.5 Nanostructured Lipid Carriers	606	
		16.6.6 Lipid-Based Marketed Products	608	
	16.7	Conclusion	609	
17.	Role o	f Lipids in Pulmonary Drug Delivery Systems	621	
	Kevink	<mark>kumar Garala,</mark> Rachana Joshi, Biswajit Basu,		
	and Bl	hupendra Prajapati		
	17.1	Introduction	622	
	17.2	Introduction to Respiratory System	623	
		17.2.1 Anatomy of Lungs	625	
		17.2.2 Cellular Aspects of Lungs	625	
		17.2.3 Deposition and Clearance Mechanism	1	
		of Particles in Airways	626	
	17.3	Conventional Pulmonary Drug Delivery		
		Systems	629	
		17.3.1 Advantages of Pulmonary Drug		
		Delivery Systems	630	
		17.3.2 Disadvantages of Pulmonary		
		Drug Delivery Systems	630	
		17.3.3 Limitations of Conventional PDDS	630	
	17.4	Novel Approaches for PDDS	631	
	17.5	Introduction to Lipid	631	
		17.5.1 Lipid Formulation Classification		
		(LFC) System	631	