

# Contents

|                                                                                               |      |
|-----------------------------------------------------------------------------------------------|------|
| Contributing Authors                                                                          | ix   |
| Preface                                                                                       | xiii |
| Foreword                                                                                      | xv   |
| Acknowledgments                                                                               | xvii |
| Chapter 1: Bioactive Entrapment and Targeting Using Nanocarrier Technologies: An Introduction | 1    |
| M.R. Mozafari                                                                                 |      |
| Chapter 2: Archaeosomes as Drug and Vaccine Nanodelivery Systems                              | 17   |
| G.B. Patel and W. Chen                                                                        |      |
| Chapter 3: Solid Lipid Nanoparticles                                                          | 41   |
| A. Saupe and T. Rades                                                                         |      |
| Chapter 4: Hydrotropic Nanocarriers for Poorly Soluble Drugs                                  | 51   |
| T. Ooya, S.C. Lee, K.M. Huh and K. Park                                                       |      |
| Chapter 5: Biomimetic Approach to Drug Delivery and Optimization of Nanocarrier Systems       | 75   |
| E.T. Baran and R.L. Reis                                                                      |      |

|                                                                                                                                                                                     |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Chapter 6: A Role for Prebiotics in Controlled Drug Delivery<br>A. Awati and P.J. Moughan                                                                                           | 87  |
| Chapter 7: Recent Advances in the Delivery of Food-Derived<br>Bioactives and Drugs Using Microemulsions<br>J. Flanagan and H. Singh                                                 | 95  |
| Chapter 8: Pharmacokinetic Modulation with Particulate Drug<br>Formulations<br>M. Langner and A. Kozubek                                                                            | 113 |
| Chapter 9: Synthetic Vectors for Genetic Drug Delivery<br>P. Wyrozumska, K. Stebelska, M. Grzybek and A.F. Sikorski                                                                 | 139 |
| Chapter 10: Dicationic DEGA-Based Lipid Systems for Gene<br>Transfer and Delivery: Supramolecular Structure and Activity<br>A.S. Elkady and R.I. Zhdanov                            | 175 |
| Chapter 11: The Role of Liposomal Antioxidants in Oxidative<br>Stress<br>Z.E. Suntres and A. Omri                                                                                   | 191 |
| Chapter 12: Interaction of Dendrimers with Model Lipid<br>Membranes Assessed by DSC and Raman Spectroscopy<br>K. Gardikis, S. Hatziantoniou, K. Viras, M. Wagner<br>and C. Demetzos | 207 |
| Index                                                                                                                                                                               | 221 |