

Preface xv

1 Adjuvants Boosting Vaccine Effectiveness 1

*Vasso Apostolopoulos*

2 In Silico Adjuvant Design and Validation for Vaccines 15

*Vivek P. Chavda, Anjali P. Bedse, Pankti C. Balar, Bedanta Bhattacharjee, Shilpa S. Raut and Vasso Apostolopoulos*

3 Adjuvant and Immunity 39

*Himel Mondal, Shaikat Mondal, Bairong Shen and Rajeev K. Singla*

4 Antigen Selection and Design 73

*Pankti C. Balar, Anjali P. Bedse, Vivek P. Chavda, Chukwuebuka E. Umeyor, Prafull Kolekar, Brian O. Ogbonna, Ankita Anure, Daniel U. Eze, Payal Dodiya and Vandana B. Patravale*

5 Adjuvants in Licensed Vaccines 107

*Kaushika Patel, Nandita Chawla, Yashvi Mehta and Sachin Patel*

6 Nanomaterial-Based Vaccine Adjuvants 137

*Tanvi, Philips Kumar, Rajat Goyal, Kashish Wilson, Hitesh Chopra and Rajeev K. Singla*

7 Adjuvants for Non-Invasive Routes of Vaccine Delivery 171

*Shruti U. Rawal, Tosha Pandya, Mangesh Kulkarni, Riya Patel and Anjali Menon*

8 Regulatory Guidelines for Vaccine Adjuvants 211

*Suneetha Vuppu, Vivek P. Chavda, Toshika Mishra, Nikita Sharma and Sathvika Kamaraj*

9 Adjuvant and Vaccine Safety 235

*Shalini Bhattacharya, Jyoti Singh, Rupesh K. Gautam, Nadeem Farooqui, Nimita Manocha and Hitesh Malhotra*

10 Shortcomings of Current Adjuvants and Future Prospects 255

*Pankti C. Balar, Vasso Apostolopoulos and Vivek P. Chavda*

References 260

Index 263