

FULL PAPER

The recent development of dengue vaccine: a review

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Dengue fever, caused by the dengue virus, is a significant global health concern, with millions of cases reported annually. The absence of specific antiviral treatments or effective preventive measures has fuelled the urgent need for a dengue vaccine. This provides a comprehensive review of the development of a dengue vaccine, summarizing the major milestones, challenges encountered, and recent advancements in this field. This study explores various vaccine strategies employed, including live attenuated vaccines, inactivated vaccines, recombinant subunit vaccines, and viral vector-based vaccines. In addition, the manuscript discusses the clinical trials conducted to evaluate the safety and efficacy of these vaccine candidates.

KEYWORDS

Dengue; dengue virus; medicine; vaccine

Introduction

The history of dengue fever, a vector-borne disease caused by the dengue virus and transmitted to human through the bite of infected *Aedes* mosquitoes, is marked by global epidemic outbreaks and substantial

morbidity and mortality rates in tropical and subtropical regions [1-5]. According to the World Health Organization (WHO), there are approximately 390 million dengue infections worldwide each year; this may trigger the development of a vaccine to prevent the spread of virus infection [6]. The development

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Viral Hemorrhagic Fevers—Advances in Research and Treatment: 2012 Edition ,2012-12-26 Viral Hemorrhagic Fevers Advances in Research and Treatment 2012 Edition is a ScholarlyBrief that delivers timely authoritative comprehensive and specialized information about Viral Hemorrhagic Fevers in a concise format The editors have built Viral Hemorrhagic Fevers Advances in Research and Treatment 2012 Edition on the vast information databases of ScholarlyNews You can expect the information about Viral Hemorrhagic Fevers in this eBook to be deeper than what you can access anywhere else as well as consistently reliable authoritative informed and relevant The content of Viral Hemorrhagic Fevers Advances in Research and Treatment 2012 Edition has been produced by the world s leading scientists engineers analysts research institutions and companies All of the content is from peer reviewed sources and all of it is written assembled and edited by the editors at ScholarlyEditions and available exclusively from us You now have a source you can cite with authority confidence and credibility More information is available at <http://www.ScholarlyEditions.com>

Introduction to Global Health Kathryn H. Jacobsen,2022-10-10 Introduction to Global Health is a comprehensive look at today s most critical global health concerns and the actions that people around the world are taking to solve public health problems and to promote health and wellbeing The Fourth Edition of Introduction to Global Health maintains the clarity and ease of use of the prior edition while featuring a greater emphasis on the specific interventions that are being implemented to promote longer healthier lives worldwide and prevent disease disability and early death in countries of all income levels Every chapter balances material about pandemics climate change and other emerging threats to global public health with evidence of how global health interventions are enabling progress toward achieving health equity

Travelers' Vaccines Jane N. Zuckerman,Elaine C. Jong,2010 Rev ed of Travelers vaccines Elaine C Jong Jane N Zuckerman 2004 , **Vaccines E-Book** Stanley A. Plotkin,Walter Orenstein,Paul A. Offit,2012-09-22 Apply the latest vaccination knowledge with a reference that Bill Gates calls an indispensable guide to the enhancement of the well being of our world Inside Vaccines you ll find comprehensive and current coverage of every aspect of vaccination from the development of each vaccine to its use in reducing disease This medical reference book offers the expert information you need to apply the very latest techniques and information in your practice Consult this title on your favorite e reader conduct rapid searches and adjust font sizes for optimal readability Gain a complete understanding of each disease including clinical characteristics microbiology pathogenesis diagnosis and treatment as well as epidemiology and public health and regulatory issues Update your knowledge of both existing vaccines and vaccines currently in the research and development stage Get complete answers on each vaccine including its stability immunogenicity efficacy duration of immunity adverse events indications contraindications precautions administration with other vaccines and disease control strategies Analyze the cost benefit and cost effectiveness of different vaccine options Clearly visualize concepts and objective data through an abundance of tables

and figures Make optimal use of the latest vaccines for pneumococcal disease rotavirus human papillomavirus herpes zoster meningococcal disease and much more Stay at the forefront of new developments with completely updated chapters on malaria and HIV vaccines a new chapter on vaccine regulations across the world and many other revisions throughout

Clinical Approach To Medicine, A (2nd Edition) Yong Yau Ong, 2004-12-22 In this new edition of A Clinical Approach to Medicine the editor has assembled a panel of leading clinicians and researchers and reorganized the material in the key areas of medicine cardiology endocrinology gastroenterology hematology neurology oncology rheumatology renal medicine and respiratory medicine This book is unique it reflects the experience of leading experts on patterns of disease in the Asia Pacific region There are several other similar books but those are by authors from the West and therefore offer a different perspective The book also includes discussions on genetic diseases infection and antimicrobial resistance to antibiotics highlighting local incidences and statistics Each chapter starts with the basic concepts of a particular topic and gradually develops the theme to present the state of the art in the topic With its focus on practices unique to Asia Pacific this book is a must for the student practicing clinician and research scientist interested in the latest developments in this part of the world

Public Health Reports ,1993 **Global Infectious Diseases** David H. Walker, 2013-04-17 Introducing a book on global infectious diseases is a daunting challenge Modern developments in molecular research newly available opportunities for earth orbiting satellite based surveillance as a means of predicting certain regional epidemics and the introduction of remarkable new antibiotics which can cure some awesome problems such as river blindness would each have astonished even the most jaded reader only a few decades ago Just the same even with these laudable advances malaria is still with us and both poliomyelitis and tuberculosis are growing worldwide problems As a holdover from my own medical school days I must confess to an affection for the older term of tropical medicine and its historic context in preference to the more popular present name which is the title of this book A century or two ago the motives to study tropical medicine were obvious nations having enormous amounts of maritime trade with distant lands established colonial empires where health in the colonies was a concern for both the natives and the colonists It is unsurprising that the great institutes for such studies sprang up in London Amsterdam Hamburg New York and New Orleans but few of these centers and other similar ones have continued to flourish or even to survive perhaps because the days of empires have gone

History of Arbovirology: Memories from the Field Nikos Vasilakis, Laura D. Kramer, 2023-05-08 These books bring together a panel of expert arbovirologists who recall the history of arbovirology from very personal perspectives In these timely volumes the authors describe seminal moments in their experiences in the field and how they integrated these findings with lab studies to further clarify the ecology and epidemiology of diverse arboviruses Authors identify the most pressing questions that remain to be answered providing a basis for current research and a stimulus to engage those entering the field Over the last 20 years a generational gap has developed between the giants of arbovirus research and discovery and the new generation This gap developed due to

an ebbing of training and investment in passing the scepter to the next generation leading to a lack of continuity among the generations that threatens to derail the rich history of virus discovery field epidemiology and understanding of the richness of diversity that surrounds us This lack of continuity may have immediate and disastrous consequences for public health when yet to be discovered arboviruses emerge The purpose of these books is to bridge this gap by providing a historical context for the work being done today and provide continuity between the generations To this end the books provide a narrative of the thrill of scientific discovery and excitement of field adventures and lab studies of that generation essential reading for every arbovirologist and highly recommended for all virologists and public health officials as well as those students considering future research options Volume I consists of the personal reflections of arbovirologists who played a significant role in the advancement of arbovirology across the globe Volume II transitions to descriptions of region specific and virus family specific perspectives of arbovirology as well as recollections of the early events of molecular advances and pathogenesis studies Volume I presents personal reflections from arbovirologists key to the understanding and advancement of this field Offers a comprehensive historical analysis of arbovirology by crucial contributors to this field First hand narratives of seminal studies and experiments illuminating how these have contributed to current knowledge

India's Vaccine Growth Story Sajjan Yadav, 2023-03-06 THIS POTENT GROUP OF WEAPONS HAS NOTABLY ANNIHILATED SMALLPOX PUSHED POLIO TO THE VERGE OF ELIMINATION AND IS NOW TAKING ON COVID 19 Indians practised inoculation centuries before the West discovered vaccines in 1796 India's Vaccine Growth Story charts the journey of vaccines from the Jennerian era to the COVID 19 pandemic covering multiple facets of vaccines from the Indian and global perspectives Apart from discussing vaccine leadership vaccine nationalism vaccine hesitancy eagerness and equity as well as the latest diplomatic currency the Vaccine Maitri the book takes its readers through India's exciting and meticulously planned project of executing the world's largest vaccination drive

Vaccine Science and Immunization Guideline Pamela G. Rockwell, DO, 2017-11-03 This book is a comprehensive resource on vaccines and immunizations for primary care physicians advanced practice providers and trainees We are now seeing a rise in measles and the potential for rises in other previously rare infectious diseases significantly due to public and physician misconceptions and misinformation about vaccines The text addresses this issue by consolidating historical and current advances in vaccine science from how vaccines are developed to CDC recommendations on how and when to administer them Expert authors also address barriers to improving vaccination rates in the U S and offer evidence based recommendations on overcoming those barriers This is an essential guide for primary care physicians family physicians pediatricians internists residents medical students mid level providers and learners for understanding vaccines and improving preventative care for their patients

[Advances in Virus Research](#), 2013-12-26 The first review series in virology and published since 1953 *Advances in Virus Research* covers a diverse range of in depth reviews providing a valuable overview of the field Contributions from leading authorities

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Generation Vaccines Myron M. Levine, Gordon Dougan, Michael F. Good, Gary J. Nabel, James P. Nataro, Rino Rappuoli, 2016-04-19 Highlighting the latest activities and initiatives of prominent organizations working in the vaccine industry such as the Bill and Melinda Gates Foundation The Global Alliance for Vaccines and Immunization WHO UNICEF the World Bank New Generation Vaccines Fourth Edition details steps developing countries have taken toward research development manufacture and regulation of several new vaccines for widespread use This text will cover the current state of the art techniques in vaccine development including the successes and the failures trace vaccine development from the bench to public health with regard to both FDA and European Union regulations investigate improved methods for immunizing large populations and the use of needles discuss the advancements in the heavily government funded areas for developing vaccines against potential bioterror and infectious disease agents as well as the immunization of large population bases for diseases like Anthrax Smallpox Ebola West Nile SARS and others Updated throughout with new cutting edge information on recent breakthroughs and developments NEW TO GENERATION VACCINES FOURTH EDITION highlights the latest activities of prominent organizations in the vaccine industry covers the current techniques in vaccine development investigates improved methods for immunizing large populations *Vaccines for Biodefense and Emerging and Neglected Diseases* Alan D.T. Barrett, Lawrence R. Stanberry, 2009-03-05 The last 20 years has seen a rapid increase in infectious diseases particularly those that are termed emerging diseases such as SARS neglected diseases such as malaria and those that are deemed biothreats such as anthrax It is well recognized that the most effective modality for preventing infectious diseases is vaccination This book provides researchers with a better understanding of what is currently known about these diseases including whether there is a vaccine available or under development It also informs readers of the key issues in development of a vaccine for each disease Provides a comprehensive treatise of the agents that are responsible for emerging and neglected diseases and those that can be used as biothreats Includes the processes such as the vaccine development pathway vaccine manufacturing and regulatory issues that are critical to the generation of these vaccines to the marketplace Each chapter will include a map of the world showing where that particular disease is naturally found **IAP**

Textbook of Vaccines Vipin M Vashishtha, Ajay Kalra, 2020-03-31 Section 1 General Aspects of Vaccination Section 2 Licensed Vaccines Section 3 Vaccines in Development and New Vaccine Strategies and Vaccines in the Pipeline Section 4 Vaccination of Special Groups Section 5 Vaccine Policies Trials and Regulatory Issues **Public Health Reports**, 1993

Promoting Innovation, Productivity and Industrial Growth and Reducing Poverty Maureen Mackintosh, Joanna Chataway, Marc Wuyts, 2021-04-26 Development and the ending of mass poverty require a massive increase in productive capabilities and production in developing countries Some countries notably in Asia are achieving this Yet pro poor aid policies especially for the least developed countries operate largely without reference to policy thinking on the promotion of

innovation for productivity growth Conversely policy makers and researchers on innovation and industrial policies tend to know little about the potential for social protection to support innovation and productivity improvement This book aims to focus attention on this gulf between research on innovation and on poverty reduction and to identify some of its policy consequences to set out some ways in which this gulf can be bridged analytically and empirically and to contribute to the creation of an agenda for further research and an understanding of the urgency of the implied rethinking The first two chapters provide sustained arguments for embedding social policy thinking in much more productivist frameworks of thought that focus on raising productivity and employment and for identifying growth theories that can incorporate satisfactory understandings of innovation and employment upgrading A set of chapters then tackle these broad themes in the context of health addressing the interlinked issues of innovation health inequity and associated impoverishment The final set of chapters examines the challenge of creating industrial policies that generate both innovation and employment using and going beyond concepts of systems of innovation

Department of Defense Appropriations for 1977: Research, development, test, and evaluation; Operation and maintenance United States. Congress. House. Committee on Appropriations. Subcommittee on Department of Defense, 1976 **Cumulated Index Medicus** ,1988 *IAP Textbook of Tropical Diseases* Raju C Shah, 2020-03-31 SECTION 1 Epidemiology of Tropical Diseases SECTION 2 Nutritional Disorders in the Tropics SECTION 3 Tropical Neonatal Problems SECTION 4 Bacterial and Rickettsial Infections SECTION 5 Mycobacterial Infections SECTION 6 Viral Infections SECTION 7 Parasitic and Protozoal Infections Infestations SECTION 8 Fungal Infections SECTION 9 Noncommunicable Diseases in the Tropics SECTION 10 Pediatric Subspecialties in Tropics SECTION 11 Accidents and Poisoning in the Tropics SECTION 12 Emergencies and Intensive Care in the Tropics SECTION 13 Environmental Issues SECTION 14 Miscellaneous Issues

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