

# *Vibrio cholerae*

## Genomics and Molecular Biology



Edited by: **Shah M. Faruque and G. Balakrish Nair**

International Centre for Diarrhoeal Disease Research, Dhaka-1212, Bangladesh and National Institute of Cholera and Enteric Diseases, Beliaghata, Kolkata - 700 010, India

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The last decade has witnessed the unravelling of remarkable new insights into the biology of *Vibrio cholerae*. These include the discovery of the filamentous phage that encodes cholera toxin, the existence of two chromosomes in *V. cholerae* and the sequencing of the whole genome of the *V. cholerae* O1 strain N16961. These pioneering works led to an inevitable escalation in the amount of data generated. In this book we have endeavoured to distill the essence of this mighty deluge of information to produce a timely review of the genomics and molecular biology of this important human pathogen.

Written by leading *V. cholerae* experts, the chapters review the most important cutting-edge genetic facets of *V. cholerae* including its genomic organization, population genetics, molecular epidemiology, and synchronized regulation of gene expression. Other topics include the molecular basis for enhanced transmissibility of cholera during epidemics, survival of the pathogen in the environment, and above all the evolution of the species to attain increased fitness both as a pathogen and an environmental organism. Essential reading for everyone with an interest in *Vibrio* and recommended reading for other scientists working in microbial pathogenesis, microbial genomics and antimicrobial research.

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**Chapter 2.** Genomics of *Vibrio cholerae* and its Evolution. *Elizabeth A. Shakhnovich and Michelle Dziejman*

**Chapter 3.** Population Genetics of *Vibrio cholerae*. *Rosario Morales, Gabriela Delgado, and Alejandro Cravioto*

**Chapter 4.** Filamentous bacteriophages in *Vibrio cholerae* genetics and evolution. *E. Fidelma Boyd*

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