DESCRIPTION

Moonlighting Proteins: Novel Virulence Factors in Bacterial Infections is a complete examination of the ways in which proteins with more than one unique biological action are able to serve as virulence factors in different bacteria.

The book explores the pathogenicity of bacterial moonlighting proteins, demonstrating the plasticity of protein evolution as it relates to protein function and to bacterial communication. Highlighting the latest discoveries in the field, it details the approximately 70 known bacterial proteins with a moonlighting function related to a virulence phenomenon. Chapters describe the ways in which each moonlighting protein can function as such for a variety of bacterial pathogens and how individual bacteria can use more than one moonlighting protein as a virulence factor. The cutting-edge research contained here offers important insights into many topics, from bacterial colonization, virulence, and antibiotic resistance, to protein structure and the therapeutic potential of moonlighting proteins.

Moonlighting Proteins: Novel Virulence Factors in Bacterial Infections will be of interest to researchers and graduate students in microbiology (specifically bacteriology), immunology, cell and molecular biology, biochemistry, pathology, and protein science.

ABOUT THE AUTHOR

Brian Henderson is Professor of Biochemistry in the Department of Microbial Diseases at the UCL-Eastman Dental Institute, University College London. He has worked in academia, both in the UK and North America, and also in the pharmaceutical and
biopharmaceutical industry. He has been a cell biologist, immunologist and pharmacologist and over the past twenty years has focused on bacteria-host interactions in relation to human infection and the maintenance of the human microbiota. This is the discipline of Cellular Microbiology and Henderson published the first book on this subject in 1999. At the inception of his career as a cellular microbiologist he discovered a potent bone-destroying protein generated by a pathogenic bacterium. This protein, surprisingly, was the cell stress protein, heat shock protein (Hsp)60. This was one of the earliest bacterial moonlighting proteins discovered and is the reason that the editor has spent the last 20 years exploring the role of protein moonlighting in the life of the bacterium and its interactions with its human host. Henderson has written or edited 17 books and monographs and was the senior editor of the Cambridge University Press Monograph series: *Advances in Molecular and Cellular Microbiology.*

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