

1. Record Nr.	UNISA996209689703316
Titolo	Bacterial toxins : tools in cell biology and pharmacology / / Klaus Aktories (Ed.)
Pubbl/distr/stampa	London, [England] : , : Chapman & Hall, , 1997 ©1997
ISBN	1-281-84256-7 9786611842567 3-527-61461-3 3-527-61460-5
Descrizione fisica	1 online resource (336 p.)
Collana	Laboratory Companion
Disciplina	579.3165 615.95293
Soggetti	Bacterial toxins
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"With 42 Figures"--Title page.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Bacterial Toxins; Contents; CHAPTER 1 . Cholera Toxin: Mechanism of Action and Potential Use in Vaccine Development; 1.1 Introduction; 1.2 Molecular Aspects of Cholera Toxin Action; 1.2.1 Structure and Relationship to Other Toxins; 1.2.2 Toxin Entry into Cells and Events Leading to Pathogenesis; 1.2.3 Enzymology of Cholera Toxin; 1.2.4 In Vitro Stimulation of Cholera Toxin Activity by ARF; 1.3 Practical Aspects of Cholera Toxin Use; 1.3.1 Vaccine and Vaccine Development; 1.3.2 Cholera Toxin as a Molecular Tool; 1.4 Summary CHAPTER 2 . Cholera Toxin and Escherichia coli Heat-labile Enterotoxin: Biochemical Methods for Assessing Enzymatic Activities 2.1 Introduction; 2.2 General Information on CT. LT. ARF and Reagents; 2.2.1 Sources, Purification, and Activation of CTA and LTA; 2.2.2 Sources and Purification of ARF; 2.2.3 Reagents and Materials; 2.2.4 Stock Solutions; 2.3 Assay 1 : The Gsa Assay; 2.3.1 Additional Reagents and Materials Required; 2.3.2 Protocol; 2.4 Assay 2: The Agmatine Assay; 2.4.1 Additional Reagents and Materials Required; 2.4.2 Protocol; 2.5 Assay 3: Auto-ADP-ribosylation Assay

2.5.1 Additional Reagents and Materials Required2.5.2 Protocol; 2.6 Assay 4: NAD Glycohydrolase Assay; 2.6.1 Additional Reagents and Materials Required; 2.6.2 Protocol; 2.7 Comments and Considerations; 2.7.1 Appropriate Controls and Analysis of Data; 2.7.1.1 Controls; 2.7.1.2 Data analysis; 2.7.2 Optimization Interfering Substances, Troubleshooting, and Assay; 2.7.2.1 Interfering substances; 2.7.2.2 Troubleshooting; 2.7.2.3 Assay optimization; 2.7.3 Consideration for the Use of ARF; 2.7.3.1 Lipid/Detergent and Nucleotide Requirements; 2.7.3.2 Development of other Assay Conditions  
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5.2 The Family of C3-like Transferases

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#### Sommario/riassunto

This is a survey of well characterized and recently discovered bacterial protein toxins. Leading investigators of the respective toxins review the various molecular mechanisms of action, ranging from toxin-induced ADP-ribosylation up to membrane perforation by pore-forming toxins. They also describe the consequences on host physiology before focusing on potential applications as cell biological and pharmacological tools for research and medical applications. Detailed descriptions of the methodology include the engineering and use of modified and chimeric toxins for better performance.

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