



## NMR Studies of the Allosteric Effectors of the Lac Operon

By Julija Romanuka

LAP Lambert Acad. Publ. Dez 2009, 2009. Taschenbuch. Book Condition: Neu. 220x150x6 mm. This item is printed on demand - Print on Demand Neuware - The lac operon is a classical example for gene expression in bacteria. This book describes structural studies of interactions between the regulatory protein of the lac operon Lac repressor and its allosteric effectors DNA, inducer, and anti-inducer. In the first part of this work, the NMR solution structures of a dimeric mutant of the Lac repressor DNA binding domain complexed with the auxiliary DNA operators were determined. With this, variations in affinity of the Lac repressor for its natural DNA operators can be explained. In the second part of the book, analysis of the NMR chemical shifts of various functional states of the intact dimeric Lac repressor mutant sheds light on the structure of the ternary complex. It also provides evidence that the allosteric mechanism of the Lac repressor can be described within the framework of the Monod-Wyman- Changeux model for allostery. The book should be useful to structural biologists with interest in biomolecular interactions. Described strategies for production of large and toxic proteins for NMR spectroscopy might be of general interest to scientists confronted...

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