

CANCER DRUG DISCOVERY AND DEVELOPMENT

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Histone Deacetylases

Transcriptional Regulation and Other Cellular Functions

Edited by

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The recent discoveries that established histone acetylation as a key regulatory mechanism for gene expression triggered a wave of interest in histone posttranslational modifications and led to the development of novel anticancer agents now in clinical trials. In *Histone Deacetylases: Transcriptional Regulation and Other Cellular Functions*, a panel of leading investigators summarizes and synthesizes the new discoveries in this rapidly evolving field. The authors describe what has been learned about these proteins, including the identification of the enzymes, the elucidation of the enzymatic mechanisms of action, and the identification of their substrates and their partners. They also review the structures that have been solved for a number of enzymes—both alone and in complex with small-molecule inhibitors—and the biological roles of the several histone deacetylase (HDAC) genes that have been knocked out in mice.

Authoritative and state-of-the-art, *Histone Deacetylases: Transcriptional Regulation and Other Cellular Functions* constitutes a first landmark of what has been accomplished so far and sets a clear agenda for the full definition of HDAC roles in biology and disease in the years to come.

- Summarizes and synthesizes the latest findings on histone deacetylases (HDACs)
- Explains what is known of HDACs enzymatic mechanisms of action
- Reviews the structures that have been solved for a number of enzymes
- Describes what needs to be done to define the role of HDACs in biology and disease

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