

New book reviews research on key signaling molecule, NF-kB

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The cover of "NF-kB: A Network Hub Controlling Immunity, Inflammation, and Cancer" illustrates canonical and non-canonical pathways for activating the transcription factor NF-kB. Credit: Cold Spring Harbor Laboratory Press

NF- κ B is a critical signaling molecule in the immune system that regulates cell survival and cell death, lymphocyte responses, and inflammation. Acting as a transcription factor that can receive several inputs, it coordinates distinct gene expression programs in response to a wide variety of stimuli.

A new book from Cold Spring Harbor Laboratory Press, *NF-* κ *B*: *A*



Network Hub Controlling Immunity, Inflammation, and Cancer, summarizes the current state of research on NF- κ B. It consists of 17 chapters and includes a historical introduction by David Baltimore, in whose lab NF- κ B was discovered.

"The elucidation of NF- κ B signaling in all of its molecular glory provided a new paradigm for understanding how receptor signaling can elicit transcriptional responses in mammalian cells," write the editors, Michael Karin and Louis M. Staudt, in the preface. "This collection includes reviews of the molecular mechanisms by which NF- κ B transcription factors are activated and exert their function in the nucleus, as well as reviews that summarize certain realms of biology that are particularly influenced by NF- κ B signaling."

The volume includes contributions covering the structure of NF- κ B, its DNA-binding activity and specificity, the role of the inhibitor I- κ B, and canonical and alternative mechanisms of NF- κ B activation. The contributors examine the physiological role of NF- κ B in immune cells, as well as its functions in other tissues, such as the nervous system. They also discuss work indicating that NF- κ B represents a critical link between inflammation and cancer, and describe clinical perspectives on the use of NF- κ B inhibitors in cancer therapy.

NF- κB : A Network Hub Controlling Immunity, Inflammation, and Cancer will be a vital reference for cell and molecular biologists, immunologists, and pathologists interested in the regulation of cell function.

Provided by Cold Spring Harbor Laboratory

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