



Springer books available as

 Printed book

Available from springer.com/shop

 eBook

Available from your library or

► springer.com/shop

 MyCopy

Printed eBook for just

► € | \$ 24.99

► springer.com/mycopy

Mechanosensitivity in Cells and Tissues

Series Editors: A. Kamkin, E. Kiseleva

This book series, *Mechanosensitivity in Cells and Tissues*, is devoted to the specific response of cells and tissues to mechanical stimulation and has been intensively studied during recent years. Mechanosensitivity is common to a wide variety of cells in many different organisms ranging from bacteria to mammals. Mechanical stress can modulate physiological processes at the molecular, cellular and systemic level. The primary target for mechanical stimulation is the plasma membrane which responds to physical stress with changes in the mechanosensitivity of ion channels. Thus, acting on ion channels in the plasma membrane, mechanical stress can elicit a multitude of biochemical processes – both transient and long-lasting – inside a cell. This may ultimately influence the function of tissues and organs in health and disease. Several stretch-induced, signaling cascades have been described with multiple levels of interactions between the different pathways. Increased sensitivity of the cells to mechanical stress is found under various pathological conditions. A detailed study of the underlying mechanisms may therefore help to identify novel therapeutic targets for future clinical use.

The topics are discussed in a form of review articles, written by leading researchers who study the mechanosensitivity process at the molecular, cellular, tissue and whole organ levels. Such a 'Series', will enable readers to access the latest information from a single source and thus acquire a complete overview of the research field. In addition, a discussion of the clinical implications, as a result of the latest developments in research in tissue and organ mechanosensitivity will provide valuable insights for clinicians, whilst pharmacological and pharmacokinetics focused reviews, will be of particular interest to researchers, searching for targets for new drugs and therapies.

Recently published:

A. Kamkin, I. Lozinsky (Eds.)

Mechanically Gated Channels and their Regulation

Vol. 6

A. Kamkin, I. Kiseleva (Eds.)

Mechanical Stretch and Cytokines

Vol. 5

A. Kamkin, I. Kiseleva (Eds.)

Mechanosensitivity and Mechanotransduction

Vol. 4



Submission information at the [series homepage](http://series.homepage) and springer.com/authors

Order online at springer.com ► or for the Americas call (toll free) 1-800-SPRINGER ► or email us at: customerservice@springer.com. ► For outside the Americas call +49 (0) 6221-345-4301 ► or email us at: customerservice@springer.com.