

Special Issue

Mechanobiology in Cells and Tissues

Message from the Guest Editor

Mechanobiology refers to the study of the effects of physical forces in controlling cell functions. It has been demonstrated that the physical forces exerted by the cell microenvironment (e.g. extracellular matrix), are collected by the cytoskeleton components of cells and translated into biochemical signals that are transduced to the chromatin, which responds with changes in the genome conformation and in turn with a tailored gene expression signature. These signal cascades, called mechanotransduction, governs either the own cell functions, but also the tissue formation and tissue homeostasis. Alterations in such transduction mechanisms result in cell dysfunction and disease development (e.g. cancer, heart infarction, tissue degeneration). Papers exploring mechanotransduction events in each of these areas are welcome: - Mechanobiology and stem cells; -Mechanobiology and tissue development; -Mechanobiology and diseases (e.g. tissue degeneration; cancer); -Mechanobiology and tissue engineering; -Innovative techniques to study mechanobiology.

Guest Editor

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