Special Issue

The Signaling and Cellular Mechanisms of Pain

Message from the Guest Editor

Pain may be classified into three classes: nociceptive, neuropathic, and inflammatory pain. The events that follow one another leading to the onset of pain consist of three events: the transduction, transmission and modulation of noxious stimuli.

The cell type most involved in the various phases of the pain projection are the sensory neurons whose sensitivity can be modulated by various mediators. Although many studies have shed light on some components of the intracellular signal transduction cascades, the signaling pathways downstream of receptor-ligand interactions are still largely unknown.

Another important aspect is the plethora of plastic changes that take place in the peripheral and the central nervous systems to contribute to pain perception. In addition, the molecular mechanism responsible for neuronal and glial plasticity is widely accepted as the mechanism underpinning the transition from acute/physiological pain to chronic/pathological pain.

Understanding the molecular and cellular mechanisms of pain is essential for the advance of pain physiopathology knowledge, for the identification of new therapeutic targets and, finally, to improve its management.

Guest Editor

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