

Transduction ion channels are gated in response to a variety of external stimuli and this process is critical for the proper functioning of sensory neurons. These specialized proteins enable the survival of any organism, which depends on having adequate information about the external environment. The thermosensitive TRP (transient receptor potential) ion channels, whose molecular structure has been identified during last decades, enable the transduction of thermal stimuli in primary nociceptive neurons. During the last decade, molecular biological techniques have provided new tools for studying the structure of these specialized transduction ion channels in relation to their function and to understand more deeply their physiological roles. The aim of this bachelor thesis is to give an overview of recent evidence regarding the functional and physiological properties of sensory-neuron specific mammalian TRP ion channels that are activated by thermal stimuli: heat and cold.