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Sensing heat, pain and noxious chemicals by TRP channels

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Abstract

Temperature-sensing is a basic somatosensory form that defines homeotherms including human. It supports body temperature homeostasis, detection of both dangerous and preferred cues from the ambient environment, and generation of pain. These functions also greatly benefit poikilotherms as well. Only very recently it is discovered that a group of TRP ion channels are the cellular detectors for heat. Research on these biological thermosensors starts to reveal the molecular mechanisms underlying temperature-sensing, an area of sensory physiology that has been least understood. At the same time, the findings hold great promise for pharmaceutical interventions of pain.

Biography

Dr. Jie Zheng received his PhD in Physiology in 1998 from Yale, postdoc training in 1999-2003 at HHMI and University of Washington. He started working at University of California, Davis School of Medicine in 2004, where he is currently an associate professor.