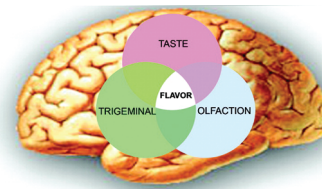


A Flavor for the Chemical Senses

Over the last few decades, significant progress has been made in understanding processes essential to the perception of the chemical senses. Lundstrom et al. (DOI: 10.1021/cn1000843) review current research on sensory processing of odors, taste, and intranasal irritants. The authors

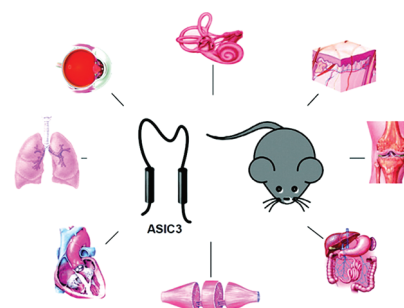
also provide a broad overview of each individual sensory process and how these integrate in the perception of flavor. The authors also emphasize important avenues for further study of these senses both individually and collectively in the flavor percept.



The bASICs of Multimodal Sensory Perception

Sensations such as pleasure and pain provide vital information about world around us. At the physiological level, these processes rely on multiple biological protein complexes including ion channels. Acid-sensing ion channels (ASICs) act as membrane-bound receptors for extracellular protons as well as non-proton ligands. In particular, the highly proton-sensitive ASIC3 channels are primarily distributed in peripheral sensory neurons and are thus well positioned to participate in

multimodal sensory perception. Wei-Guang Li and Tian-Le Xu (DOI: 10.1021/cn100094b) summarize the evidence demonstrating the involvement of ASIC3 channels in multimodal sensory perception. The authors also discuss potential mechanisms underlying ASIC3 activation and mediation of sensory perception with special emphasis on roles in nociception. Finally, the authors discuss the activation and modulation of ASIC3 by diverse sensory stimuli.



Scratching the Surface of Itch

The sensation of itch is familiar, but until recently there has been a lack of clear understanding of the processes at the molecular level. However, recently there have been many new advances relating to the study of itch. Now, Kush

N. Patel and Xinzhong Dong (DOI: 10.1021/cn100085g) review the state-of-the-art with respect to the cells, molecules, and circuits involved in itch and also emphasize important questions that are yet to be answered.

