UC DAVIS HEALTH | SCHOOL OF MEDICINE

Department of
Physiology and Membrane Biology

Distinguished Lecture Series in Physiology

Rajesh Khanna, Ph.D.

Richard and Thelma O.C. Barney Term Professor,
Department of Pharmacology and Therapeutics
Director, Pain and Addiction Therapeutics (PATH) Collaboratory

"Deciphering the CRMP2 molecular QR code for pain signaling"

Emerging evidence shows that proteins often bear multiple modifications, which can interact in ways that significantly impact biological functions. Collapsin response mediator protein 2 (CRMP2) is a crucial modulator of the CaV2.2 and NaV1.7 ion channels, key targets in pain research. Found in nociceptors, spinal neurons, and supraspinal centers, CRMP2's regulation of these channels relies on specific post-translational modifications (PTMs) like phosphorylation and SUMOylation.

Our research aims to understand how CRMP2 modulates CaV2.2 and NaV1.7 to enhance pain relief selectivity and efficacy. We have elucidated the role of SUMOylating machinery and upstream signaling in VGIC modulation by CRMP2 across various pain modalities. This expertise has enabled us to translate pre-clinical findings to non-human primate and human cells.

In my talk, I will delve into the crosstalk between CRMP2 PTMs, proposing that these modifications influence both canonical and atypical functions, as well as interactions with other proteins in nociceptive signaling.

Thursday, February 27, 2025
GBSF and Zoom
12 p.m.

February 27

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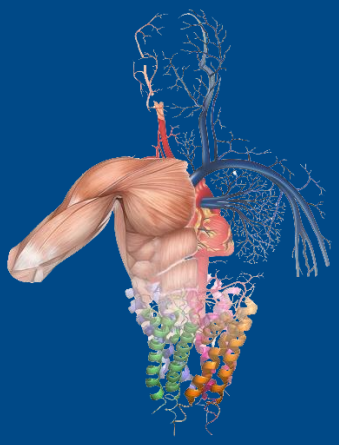

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