

Internal Webinar

Characterisation of Cnpy and Btnl proteins in the mouse vomeronasal organ

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Mouse vomeronasal sensory neurons (VSNs) express V1 and V2 type GPCRs that detect distinct pheromones and mediate stereotypic innate behaviours in animals. A recent study from our lab has identified a specialised endoplasmic reticulum (ER) environment in V2R expressing VSNs. These neurons are ER chaperone enriched, develop hypertrophic-gyroid ER membranes, indicating specific proteostatic demands. Additionally, uncharacterised proteins, Cnpy1 and Btnl were identified to be exclusively expressed in V2R-expressing neurons. As my working hypothesis, I focused on the possible role of Cnpy1, Btnl as novel ER chaperones of V2R GPCRs. I will discuss various In-vivo and In-vitro assays related to their intracellular localisation, possible role in alleviating ER stress, interaction with other ER chaperones and GPCR maturation. Together, these efforts have helped in understanding the role of these uncharacterised ER proteins in sensory neurons.

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