

DANDRITE Topical Seminar

A STAND (Ultra-Stable Cytoplasmic Antibody) engineered for in vivo application to cancer, ER Stress- and Apoptotic Stress-induced neurodegenerative disorders

Mikoshiha discovered IP3R (IP3R) localized at ER from the ataxic mouse brain. He performed verification of the allosteric principle and its role in physiology. He discovered IP3R binds to molecular chaperones and Bcl-2-family proteins at allosteric sites of IP3R and regulates the Ca²⁺ signaling. He established a novel concept of the IP3R-coupled ER Stress and IP3R-coupled Apoptotic Stress Response establishing a paradigmatic change that the molecules that bind to allosteric sites contributes to design therapeutic tools for neurodegenerative /psychiatric disorders. A novel STAND (Ultra-Stable Cytoplasmic Antibody) technology engineered for in vivo application is to be presented.

In the Ca²⁺ signaling field, Mikoshiha established a novel concept that endoplasmic reticulum (ER)-resident IP3R/channel is a Ca²⁺ oscillator which plays an essential role in development and brain function. It is a causal gene for human Spinocerebellar ataxia, Gillespie Syndrome, ataxic cerebral palsy. IP3R is a novel type of Ca²⁺ channel with huge (1,252kDa) signaling hub for disease-associated molecules (chaperones, anti-/pro-apoptotic proteins, huntingtin, ataxin, caspase 3). It is a key integrator for sensing ER stress and apoptotic stress response to protect from degenerative disorders.

Host: Tomonori Takeuchi



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Date: **Thursday 23 January 2025**

Time: **13:00 - 14:00**

Venue: **1170 - 347**

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OPEN TO ALL INTERESTED.