Inositol trisphosphate receptor

Inositol trisphosphate receptor (InsP3R) is a membrane glycoprotein complex acting as a Ca2+ channel activated by inositol trisphosphate (InsP3). InsP3R is very diverse among organisms, and is necessary for the control of cellular and physiological processes including cell division, cell proliferation, apoptosis, fertilization, development, behavior, learning and memory.

Inositol triphosphate receptor represents a dominant second messenger leading to the release of Ca2+ from intracellular store sites. There is strong evidence suggesting that the InsP3R plays an important role in the conversion of external stimuli to intracellular Ca2+ signals characterized by complex patterns relative to both space and time, such as Ca2+ waves and oscillations.

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