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New mechanism responsible for the generation of calcium oscillations: Dynamics associated with slow intra-cellular accumulation of inositol trisphosphate

Calcium which is a requisite element for our bone formation plays an important role in intra-cellular signal transduction as well. Brain scientists and researchers in life science have been intrigued by the critical role of calcium ion for disclosing the mystery of life, such as development, memory, senescence, and so on. Calcium oscillation which is termed for a phenomenon of oscillative change between rising and descending calcium concentration is suggested to be associated with fertilization, secretion of hormones and digestive enzymes, immunity, and gene expression.

Laboratory for Developmental Neurobiology in Brain Science Institute (BSI) developed a visualizing technology of the intra-cellular concentration of inositol trisphosphate, which is believed to be causative substance for the calcium oscillation. By use of the imaging technique, it was found that the calcium oscillation was highly dependent on the accumulation of inositol trisphosphate in the cell, supporting one hypothesis among disputed mechanisms.

Advanced visualizing technique will lead the perfect understanding of the mechanism and the role of the calcium oscillation together with accelerating the better understanding of the mystery of life,

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