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Regulation of the calcium pump of plasma membranes by calmodulin

Calcium is the third most abundant metal in nature and a versatile carrier of many signals within and outside the cell. Due to its peculiar coordination chemistry calcium is highly flexible as a ligand which enables it to regulate many important aspects of cellular activity. Calcium can fulfill its many different functions in site and out of the cell due to an integrated network of calcium channels, exchangers and pumps. In this presentation, author will give an overview on our studies of the interaction and regulation of the plasma membrane calcium pump (PMCA) by calmodulin and the importance of the spliced isoforms of PMCA with special emphasis on the possible regulation of expression of PMCA1a, the neuronal specific isoform of PMCA by the thyroid hormone T₃.

Biography

Joachim Krebs received his PhD from the University of Tübingen, Germany. He spent two years as a Postdoctoral fellow with Prof. R.J.P.Williams at the University of Oxford, UK. In 1977 he accepted a position at the Institute of Biochemistry at the ETH in Zurich, Switzerland. In his lab he focused his research on the structure-function relationship of calcium binding- and transporting proteins. He has authored, coauthored, and edited numerous articles in international journals and books in the field of calcium biochemistry and calcium signaling. After his retirement from the ETH he continued his research at the Department of NMR based Structural Biology of the Max Planck Institute for Biophysical Chemistry in Göttingen, Germany. Recently, he edited the book "Calcium: A Matter of Life or Death", published by Elsevier in 2007. He is also on the Editorial Board of *BBA Molecular Cell Research* and a Section Editor of *Archives of Biochemistry and Biophysics*.