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Calcium, calmodulin and the plasma membrane calcium pump

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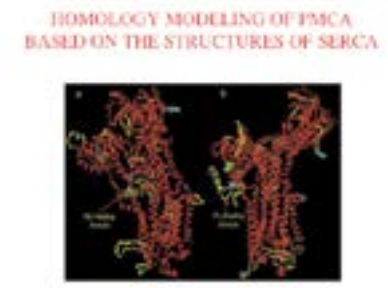
Calcium is the third most abundant metal in nature and a versatile carrier of many signals within and outside the cell. Due to its peculiar coordination chemistry calcium is highly flexible as a ligand which enables it to regulate many important aspects of cellular activity. Calcium can fulfill its many distinct functions onsite and out of the cell due to an integrated network of calcium channels, exchangers and pumps. In this presentation, I will give an overview on our studies of calcium binding proteins, their interaction with protein targets resulting in specific modulations of protein-protein interactions. This will be demonstrated by the interaction of the calcium binding protein calmodulin with one of its targets, the plasma membrane calcium pump, an important regulator of calcium homeostasis of the cell.



Biography

Joachim Krebs has been working in the field of calcium-binding and calcium-transporting proteins for many years. After receiving his PhD, he spent two years as a Post-doctoral fellow in the lab of Prof. RJP Williams at Oxford, UK. In 1977, he has accepted a staff position at the Institute of Biochemistry at the Swiss Federal Institute of Technology (ETH) in Zürich, Switzerland. He was lecturing different courses in Biochemistry and Biophysics and was leading a lab working on the structure-function relationship of calcium-binding and calcium-transporting proteins. After retirement from the ETH he continued his research as a consultant of the Lab of Prof. Christian Griesinger at the MPI in Göttingen, Germany. He has authored, co-authored and edited numerous articles in international journals. Recently he edited a book on "*Calcium: A matter of life or death*" published in 2007. He serves as the Editorial Board Member of *BBA Molecular Cell Research and Archives of Biochemistry and Biophysics.*

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