

CMPS seminar Nov 16th at 13.15 in CMPS library +1

The enigma of the CLIC proteins: ion channels, redox proteins, enzymes, scaffolding proteins?

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Abstract

Chloride intracellular channel proteins (CLICs) are distinct from most ion channels in that they have both soluble and integral membrane forms. CLICs are highly conserved in chordates, with six vertebrate paralogues. CLIC-like proteins are found in other metazoans. CLICs form channels in artificial bilayers in a process favoured by oxidising conditions and low pH. They are structurally plastic, with CLIC1 adopting two distinct soluble conformations. Phylogenetic and structural data indicate that CLICs are likely to have enzymatic function. The physiological role of CLICs appears to be maintenance of intracellular membranes, which is associated with tubulogenesis but may involve other substructures.

Paul Curmi has a long standing interest and expertise in the structure of biological macromolecules, especially proteins. His research covers the determination of protein structure; examining the physical properties of proteins; and determining the relationship between protein structure and sequence. X-ray crystallography is being used to determine the structures of several proteins including: molecular chaperones; ion channels; cell receptors; serpins and light harvesting proteins. Computer methods such as molecular dynamics simulations, are being used to determine the mechanical and electrostatic properties of proteins of known structure.

Host:

Sara Snogerup Linse