

P009 Subunit architecture of the peripheral arm of complex I from *Yarrowia lipolytica*

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Electron transfer from NADH to ubiquinone in complex I is catalysed by the N and Q module. Sazanov and Hinchliffe have determined the structure of this segment at high resolution. However, its relative orientation to the membrane arm comprising the yet unknown site of proton pumping is a matter of debate.

3D reconstructions of single complex I particles from *Yarrowia lipolytica* revealed a six domain substructure of the peripheral arm and the use of monoclonal antibodies allowed the localization of two subunits of the Q module.

Here we show the biochemical and structural analysis of a subcomplex lacking specifically the flavoprotein part of the N-module. The 51 and 24 kDa subunits clearly corresponded to domain 1 located at the distal end of the peripheral arm. The X-ray structure of the peripheral arm fragment was modelled into the EM structure of *the Y. lipolytica* holo complex I. Functional implications are discussed.