

**P023** Biogenesis of c-type cytochromes: the harder you look the more complex it becomes  
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C-type cytochromes are a structurally diverse group of hemoproteins, related by the occurrence of heme covalently attached to polypeptide via two thioether bonds formed by the vinyl groups of heme and cysteine side chains normally in a CXXCH peptide motif. C-type cytochrome centres are crucial for the life of almost all organisms and for the enzymology of the nitrogen cycle, both in electron transfer and catalytic roles. Remarkably, at least three different systems for the chemically difficult post-translational formation of these cytochromes have been identified. Here we describe emerging evidence for the existence of two further such biogenesis systems and genomic analyses which show that the distribution of the biogenesis systems in different organisms is complex and not as expected. We also present data on the specificity determinants of the cytochrome c maturation (Ccm) apparatus found in many Gram-negative bacteria.