

**P046** Role of lipid-modified azurin (Laz) in electron transport of *Neisseria meningitidis*.

Deeudom M., Huston W., and Moir J.W.B.

*Department of Biology, The University of York, Heslington, York.*

Lipid-modified azurin (Laz) of *N. meningitidis* is predicted to be a copper-containing protein with redox activity. Homology analysis of Laz with azurins from other bacteria revealed a unique domain at N-terminus that differs from azurins of other bacteria. These extra peptide residues are predicted to form a linker domain before the cupredoxin domain and a site for covalent attachment to the outer membrane. It is proposed that Laz can accept electrons from the cytochrome  $bc_1$  complex and transfer them to the terminal electron acceptor cytochrome  $cbb_3$  oxidase and/or copper-containing nitrite reductase (Cu-NiR). Preliminarily, Laz has been overexpressed and purified. Analysis by SDS-PAGE did not show the correct molecular mass as predicted. However, the analysis by electrospray mass spectrometry revealed the molecular masses that corresponded correctly to the predicted mass. The copper is incorporated into the protein and probably active in redox activity as indicated by exhibition of intense blue colour when oxidized by ammonium persulfate or potassium ferricyanide, and absorption of visible light at 626 nm. However, supplementation of growth media with 1mM  $CuCl_2$  is required in order to produce Laz that exhibits such spectral feature. The redox properties of the protein and its interaction with putative redox partners will be discussed. Antisera are being raised which will enable us to identify the localization of the protein.