

Structure determination of Split-soret Cytochrome from a *Desulfovibrio* species isolated from a human abdominal abscess

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Abstract

The determined structure of the split-soret cytochrome (SSC) isolated from *Desulfovibrio desulfuricans* ATCC 27774 (D.d.) revealed a new Heme arrangement, which suggests that this protein constitutes a new cytochrome class.. SSC is a 52.6kDa homodimer containing four hemes at one end of the molecule. In each monomer the two hemes have their edges overlapped within van der Waals contacts. The polypeptide chain of each monomer supplies the sixth ligand to the heme-iron of the other monomer. A similar protein was recently purified from a homologous *Desulfovibrio* clinical strain isolated from an abdominal wall abscess in human patient². Crystals of this SSC were grown using vapour diffusion method in the presence of agarose gel. Diffraction data were collected using X-ray synchrotron radiation at the ESRF, beamline, ID 14-1. The structure will be solved by molecular replacement using the structure of the D.d. as a starting model.