

**Experiment title:**

Block Allocation Group: Portugal

Experiment number:

LS-1523

Beamline:

BM14

Date of experiment:

from: 17/11/99 at 08:00 to: 19/11/99 at 07:00

Date of report:

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Shifts:**Local contact(s):**

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Report:**Formate Dehydrogenase from *Desulfovibrio gigas*:**

A 4-wavelength MAD data set (W-peak, Fe-peak, Fe-p.i. and remote) was collected from a frozen crystal of this protein. Wavelength selection near the Fe K-edge was done from a fluorescence scan of a test crystal. Wavelength selection near the W L_{III}-edge was from theoretical values. The remote wavelength data is 97% complete to 2.0 Å resolution. 32 Fe and 2 W atoms were found in the asymmetric unit with SOLVE. Phase refinement was carried out with SHARP. The f.o.m. after Solomon is 0.93 and after DM 0.675. The electron density maps are interpretable and a model is being built. Published data on this protein (metal analysis and Mössbauer spectroscopy) suggest the presence of 2 [4Fe-4S] clusters but the MAD maps clearly reveal the presence of additional Fe/S clusters.