



Experiment title: Structural Studies of Plasmid Replication Initiator Proteins.

Experiment number:
LS811

Beamline:
BM14

Date of experiment:
from: 8th July 1997 to: 10th July 1997

Date of report:
13th August

shifts:
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Local contact(s):
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Report:

We collected three complete data sets during our beam time all of which are useful and are being used in ongoing structural determinations.

MAD data were collected for SeMet-protein to 2.5Å resolution. Data were collected at three wavelengths (0.9789, 0.9792, 0.918Å with R_{sym} 0.038, 0.036, 0.036. The data sets were used to calculate a MAD-phased electron density map that was of sufficient quality to quickly build a model of most of the protein. The MAD phases have also been incorporated into the MIRAS phase calculation and refinement of the model is currently under way.

At the same time as the maps were being inspected, it was discovered, using mass spectrometry, that the protein sample was, in fact, EPTu. This had not been determined previously as the amino-terminus was blocked, making protein sequencing difficult.

The model of the EFTu-GDP complex will be refined against native data previously collected on ID02 at the ESRF to 2.0Å resolution. This should then be the highest resolution structure of the E.coli EFTu-GDP complex determined to date, with the advantage that it has been independently phased.

We are pleased with the data collected during this beam time and would like to thank the beam line staff, in particular Gordon Leonard, for their assistance.