



Experiment title:
StEH: Epoxide hydrolase from potato
from *E. coli* I. BAG: Uppsala (II)

**Experiment
number:**
MX-274

Beamline:
ID14-EH2

Date of experiment:
from: 2 August 2004 to: 4 August 2004

Date of report:
30 August, 2004

Shifts:
6

Local contact(s):
Dr Elena MICOSSI

Received at ESRF:

Names and affiliations of applicants (* indicates experimentalists):

T. Alwyn Jones, Uppsala University, alwyn@xray.bmc.uu.se
Sherry L. Mowbray, Swedish Univ. Agric. Sciences, mowbray@xray.bmc.uu.se
* Evalena Andersson, Uppsala University, evalena@xray.bmc.uu.se
* Annette Roos, Uppsala University, annette@xray.bmc.uu.se

Report:

The epoxide hydrolase from potato is significantly different from the two EHs that have previously been solved in our laboratory. It is most similar (amino-acid sequence identity ~30%) to the mammalian enzymes for which the structures are known. One data set was collected for the apo enzyme, with R-merge ~7%, which has allowed the structure to be solved by molecular replacement. It is now being refined at 2.1 Å resolution. We will use this structure to work toward a better understanding of the different substrate specificities observed for the various enzymes, and also as the template for directed evolution experiments intended to provide new enzymes with novel specificities.