



	Experiment title: Enzymes of ribose metabolism: Ribose-5-phosphate Isomerase from <i>E. coli</i> . BAG: <i>Uppsala (II)</i>	Experiment number: LS-2187-2b
Beamline: ID14-EH1	Date of experiment: from: 13 July 2002 to: 14 July 2002	Date of report: 13 Aug 2002
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Report:

Ribose-5-phosphate isomerase (RPI A) is an enzyme which performs the isomerization of ribose-5-phosphate to ribulose-5-phosphate or *vice versa*. The apo structure of *E.coli* RPI A has already been solved by two independent groups, but a collaboration with one of them has given us the opportunity to perform structural studies of *E.coli* RPI and a possibility to gain deeper understanding of the enzyme by the study of RPI/inhibitor complexes.

We collected a dataset of RPI A co-crystallized with the inhibitor arabinose-5-phosphate (A5P) to a resolution of 1.2 Å. The structure was solved by Molecular Replacement and auto-traced with the ARP/wARP package and refined to 1.25 Å. This data has been very valuable for us, since it has given us the opportunity to address questions concerning inhibitor/substrate binding and specificity, showed that conformational changes are likely to be an essential part of the function of *E.coli* RPI A, as well as given us an increased knowledge of the enzymatic mechanism (to be published).

