ESRF	**Experiment title:** Crystal structure analysis of the MalK protein from Salmonella typhimurium	**Experiment number:** LS-1083
Beamline:	**Date of experiment:** from: 8.12.98 to: 9.12.98	Date of report: **23.8.99**
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Report:

The ATP-binding protein, MalK, of the bacterial ABC (ATP-binding cassette) transport complex $MalFGK_2$ provides the energy for the translocation of maltose and maltodextrins across the cytoplasmic membrane. Improved crystals grown from the mutant Q140L of MalK from *Salmonella typhimurium* adopt the space group $P4_22_12$ and cell parameters of 96.2 Å and 214.0 Å. We collected a native data set at the ID14 beamline in december 1998 with an R_{sym} value of 5.3% and a completeness of 95.5% in the resolution range 2.7 - 30.0 Å. Moreover, we collected two data sets where the crystals are soaked with $EtHgPO_4$ (completeness 93%, R_{sym} = 7.6%, 30-3.4 Å) and $SmCl_3$ (completeness 48%, R_{sym} = 5.1 %, 30-2.8 Å) . However, the heavy atoms have bound in a non-isomorphous manner such that they are not useful for phasing. The solution strategy will be to use seleno-labelled methionine for phase determination.