



Experiment title:
Gelsolin/actin complexes: Alwyn Jones BAG

Experiment number:
LS-2187

Beamline:
ID14 2

Date of experiment:
20-21 September 2003

Date of report:
30/08/2004

Shifts:

Local contact(s):
Elena Micossi

Names and affiliations of applicants (* indicates experimentalists):

Robert Robinson, IMBIM, Uppsala University*

Report:

The special and temporal regulation of actin polymerization provides the force for cell locomotion. Gelsolin is an actin filament severing and capping protein that regulates the timing of actin polymerization through controlled capping or uncapping of filament ends. Gelsolin also contributes to regulating the total number of filaments through its severing function.

In this trip we collected 5 data sets of soaks of a structure that had been solved at the ESRF (see reference below). The soaks were analogues of PIP2 a molecule that releases gelsolin from an actin filament. Unfortunately, there was no density for the PIP2 analogues in the maps.

Burtnick, L. D., Koepf, E. K., Grimes, J., Jones, E. Y., Stuart, D. I., McLaughlin, P. J. & Robinson, R. C. The crystal structure of plasma gelsolin: Implications for actin severing, capping and nucleation. *Cell* (1997) 90, 661-670.