

	Experiment title: BAG-LEBS-2007-1	Experiment number: 30-01/796
Beamline: BM30A	Date of experiment: from: 12/11/07 at 8:30 to: 13/11/07 at 8:00	Date of report: 20/2/08
Shifts: 3	Local contact(s): Dr. Thomas Iwema	<i>Received at ESRF:</i>
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Report:

J.C. Zeeh (3 shifts): structural studies of complexes between guanine exchange factors and Arf small GTP-binding proteins with inhibitors

1) EKLM11

ARF1 is a small G protein and involved in vesicular transport in cell. In 2003, we obtained the structure of Arf1 complexed with its regulator ARNO (a guanine exchange factor). By in silico screening, we found a new inhibitor of exchange reaction of Arf1 catalysed by ARNO, called LM11. The mechanism of this inhibitor is known and LM11 binds to the complex Arf1/ARNO, so we try to obtain a crystal of ARF1/ARNO with LM11 by soaking ARF1/ARNO in LM11 solution.

During the session, I tested 11 crystals but just one gave a good diffraction data allowing solution by molecular replacement.

Spacegroup: P3221 with a= 104 Å, b=104 Å and c=68 Å.

Resolution: 1.7 Å.

Completion= 98.5%

Rsym=27%

Unfortunately, The structure analysis showed no density which could be correlated with the inhibitors LM11.

2) SECIN

ARNO is a protein which regulates the function of Arf1 in cell. M.Famulok, by screening small molecules, found a new inhibitor of ARNO called SecinH3. He showed that this inhibitor is specific to ARNO in vitro and in vivo and able to bind ARNO. So we try to obtain a crystal of ARNO with SecinH3 by soaking ARNO in SecinH3 solution, or by cocrystallization of ARNO and SecinH3.

During this session, 20 crystals were tested. Some of these crystals diffracted well but a trouble on the beamline did not permit to collect full data.