



Experiment title: Structural and functional studies of arrestin-peptide complexes

Experiment number:

LS-1303 block allocation

Beamline:

ID14 3

Date of experiment:

from: 15.04.1999 to: 16.04.1999

Date of report:

24.08.1999

Shifts:2

Local contact(s): Mark van Raaij

Received at ESRF:

Names and affiliations of applicants (* indicates experimentalists):

J. Granzin*¹, J. Labahn*¹, G. Büldt¹, O. Ernst²

¹Forschungszentrum Jülich, IBI-2, Biolog. Strukturforschung, D-52428 Jülich, GERMANY

²Humboldt Universität zu Berlin, Institut für Medizinische Physik & Biophysik, Ziegelstr. 5-9, D-10117 Berlin, GERMANY

Report:

Originally we planned to collect data from bovine arrestin complexed with a peptide (the proposal from 26.08.1998), but at the date of the experiment (15.04.1999) there were new crystals from protein expressed in baker's yeast, which had better diffraction. Three datasets were collected with different concentration of inositolhexaphosphate (IP₆). This compound is supposed to map the rhodopsin binding site(s) of arrestin. The best crystal diffracted to a resolution of 2.7 Å and molecules of IP₆ were located by difference fouriers at two positions in the arrestin structure. The phases were obtained by molecular replacement with the native arrestin x-ray structure from bovine eyes (1). The refinement of the structure is in progress and will be published as soon as possible. These important result was presented in an invited talk at the FASEB conference for: The Biology and Chemistry of Vision (13.06. to 18.06.1999).

(1) Granzin, J., Wilden, U. Choe, H.-W., Labahn, J. Krafft, B. & Büldt, G.: X-ray crystal structure of arrestin from bovine rod outer segments. *Nature* 391, 918-921 (1998).