



Experiment title: High-Salt Peridinin-Chlorophyll <i>a</i> -Protein (HSPCP) from <i>Amphidinium carterae</i>	Experiment number: LS-1892	
Beamline: ID14-4	Date of experiment: from: 27.06.01 to: 28.06.01	Date of report: 03.09.2001 <i>Received at ESRF:</i>
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Background:

Peridinin-Chlorophyll *a*-Proteins (PCPs) allow dinoflagellates (a form of eucaryotic algae) to efficiently use carotenoids for light harvesting. The HighSalt PCP from *Amphidinium carterae* is expressed at a lower level in comparison to the Main Form PCP (MFPCP), of which the structure is known. It also binds 25% less peridinin molecules, what becomes apparent in the spectroscopic behaviour. Sequence alignment indicates a very similar structure of both complexes, but the overall identity is only about 30%. Recently two different initial crystallization conditions have been found, and crystals have been frozen.

Experiments done:

During this allocation one crystal of size (200x20x10 μm^3) has been tested which diffracted to better than 2.2 \AA . A complete dataset to 2.2 \AA could be collected. The spacegroup is P2(1).

Data set	Res. (\AA)	R _{meas} (%)	$\langle I \rangle / \langle \sigma_I \rangle$	Compl. (%)	Aim	Result
pcphs1	45-2.2 (2.3-2.2)	9.7 (29)	10.4 (4.5)	79.8 (63.3)	Spacegroup, native data	P2(1)

Outlook:

In parallel to continuing MR trials, we will try to improve the crystal quality/size of both crystalforms and to establish a heavy metal derivative inhouse (at least one of the Pt-binding sites of the MFPCP structure are conserved). Success granted we would collect a MAD dataset.