ESRF	**Experiment title: P67, a cytosolic factor from the NADPH oxydase complex**	**Experiment number**: LS-1794
Beamline: ID14-EH1	**Date of experiment**: from: 7-10-00 to: 8-10-00	**Date of report**: 10-2-01
Shifts: 3	**Local contact(s)**: S. MONACO	*Received at ESRF:*

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Report:

A) Nterminal fragment of P67

Different data sets of mutants of the Nterminal fragment of P67, a cytosolic factor from the NADPH oxydase complex, were collected as well as various native protein crystals soaked in heavy atom solutions.

- 2 data sets at 2.5 Å resolution of the mutant

- 2 data sets of native crystals soaked in a lead compound at 2.8 Å and 1.8 Å resolution. The data exhibit 16 % twinning and 0% twinning, respectively.

- 2 data sets at 2.5 Å resolution of native crystals soaked in a mercury compound.

B) Microtubule motor proteins

Studies of motor proteins and cytoskeleton protein: crystallization tests on a complex between the tubulin and the protein SCG10 and on motor kinesins.

Tubulin is a 100 kDa heterodimer that aligns head-to-tail along the protofilaments in the wall of microtubules. Microtubules are major components of the cytoskeleton in eucaryotic cells where they play various and essential roles in cell division and intercellular traffic.

SCG10 is a neuron-specific protein, membrane associated and concentrated in growth cones. It binds to microtubules and induces their disassembly. We have shown the existence of a stable complex between a soluble fragment of SCG10 and two dimers of tubulin. Crystals were obtained and diffracted up to 6 Å resolution with cell parameters : P212121, a=56, b= 353, c= 466Å (D. Fleury & al., JSB, 2000, 131,156-158)

We have recently obtained crystals of a complex between a shorter fragment of SCG10 (90 aminoacids instead of 131). The crystals, tested on ID14EH1, diffracted weakly up to 10 Å and the diffraction pattern showed smaller cell parameters, estimated to 220x220x45 Å.

Improvement of the crystallization is in progress.

Kinesin is a microtubule associated motor protein and plays many essential roles within eucaryotic cell. Crystals of two kinesins from *Drosophila* and *N. asparagillus* were tested. They diffracted weakly. Crystallization is in progress.