	REV7 trials	MX-1148
ID23-2	from 30th of June 2010 to 1st of July 2010	
I shift	Local contact: Dr. Elspeth GORDON	

EXPERIMENTAL REPORT

DNA polymerase Zeta plays a role in translesion DNA synthesis (TLS) that occurred when DNA damage is unrepaired (1). Rev7 and Rev3 are the two subunits of this polymerase : Rev7 is regulatory subunit and Rev3 the catalytic (2). Rev7 can have two conformations : active (when bound to polymerase zeta) and inactive forms. As first step, we aim to solve the crystal structure of Rev7 by itself (both active and inactive states) in order to better understand its role in TLS, then to solve the complex of Rev7-Rev3 as well as the complex of Rev7-Rev1 (polymérase Eta, playing role in TLS).

After three weeks of incubation at 4 degrees Celsius we began to observe small crystals of about 50 microns of rev7, active state (Figure 1), in some of our vapour-diffusion screening conditions. We now want to test them at the ESRF to confirm that they are real protein crystals and to try to obtain good resolution.

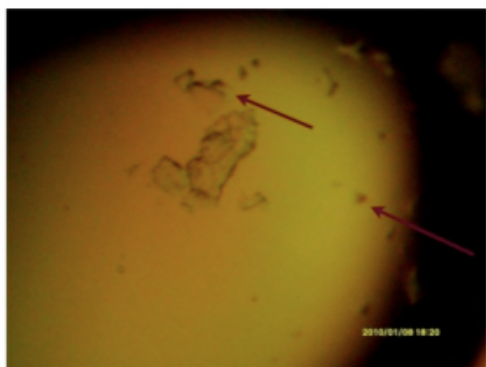


Figure 1. Rev7 crystals

Unfortunately, we had to cancel the visit since we realized before to come that the crystals were not real.

REFERENCES

1. Murakumo Y. *The property of DNA polymerase ζ :REV7 is a putative protein involved in translesion DNA synthesis and cell cycle control.* Mutation Research 510 (2002) 37–44.
2. Murakumo Y, Ogura Y, Ishii H, Numata S, Ichihara M, Croce CM, Fishel R, Takahashi M. *Interactions in the error-prone postreplication repair proteins hREV1, hREV3, and hREV7.* J Biol Chem. 2001 Sep 21;276(38):35644-51