



	<b>Experiment title:</b>  Structure and Function of the primase RepB' of Plasmid RSF1010	<b>Experiment number:</b>  MX-679
	<b>Beamline:</b>  ID 23.2	<b>Date of experiment:</b> from: 17/04/08 to: 18/04 /08
	<b>Shifts:</b>  3	<b>Local contact(s):</b>  Gianluca CIOCI
<b>Date of report:</b>  14.05.08  <i>Received at ESRF:</i>		

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## Report:

The Plasmid RSF1010 is broadly distributed among gram-negative bacteria. It encodes for three essential replication proteins, RepC an initiator for opening the DNA double helix at the origin of replication (oriV), RepA a helicase that travels along a single strand of DNA and opens base pairs, and RepB' a primase that follows the helicase and synthesizes RNA- or DNA-primers which are required by the DNA polymerase to produce new and identical DNA.

We expect to solve the structure of the primase in complex with DNA to understand the mechanism of the primer synthesis and the role of the primase in DNA replication and DNA repair.

We were able to collect a dataset from the large domain of RepB' in complex with NTPs (GrDom+NTP), see table:

	<b>GrDom+NTP</b>
Wavelength [Å]	0.873
Space group	P4 <sub>3</sub> 2 <sub>1</sub> 2
a,b,c [Å]	82.74, 82.74, 189.22
$\alpha=\beta=\gamma$ [°]	90
Resolution [Å]	20.0-2.45
I/ $\sigma$ (I)	18.53 (3.78)
Completeness [%]	99.9(99.9)
R <sub>sym</sub> [%]	8.9 (55.0)
Reflections measured	179319
Unique reflections	24963

