

**Experiment title:**

Glucose-1-phosphate Thymidyltransferase

Experiment**number:**

LS1517

Beamline:

ID14 1

Date of experiment:

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Shifts: 1**Local contact(s):** H. Belrhali*Received at ESRF:***Names and affiliations of applicants (* indicates experimentalists):**

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Report:

L-Rhamnose is a key component of the cell wall of many pathogenic bacteria: in mycobacteria it is essential for cell-wall integrity, in Gram-negative bacteria l-Rhamnose is often found in the O-antigen part of lipopolysaccharides.

L-Rhamnose is incorporated in the mycobacterial cell wall from a nucleoside diphosphate precursor dTDP-L-rhamnose. The first step in the biosynthesis of dTDP-L-Rhamnose is the formation of dTDP-D-glucose from glucose-1-phosphate and this reaction is catalyzed by Thymidyltransferase (Timt).

Crystals of Timt have been obtained in our lab and diffraction data were collected at ESRF up to a resolution of 3.5Å. Crystal belongs to R32 space group with unit cell constants $a=129.4 \text{ \AA}$, $b=129.4 \text{ \AA}$, $c=203.3 \text{ \AA}$. The data collected did not allow us to solve the structure yet. Heavy atoms derivatives search is in progress.