



	<b>Experiment title: Structural study on PatAB multidrug ABC transporter</b>	<b>Experiment number:</b> MX-2441
<b>Beamline:</b> CM01	<b>Date of experiment:</b> from: 10/07/2023 to: 12/07/2023	<b>Date of report:</b> 30/08/2023
<b>Shifts:</b>	<b>Local contact(s):</b> Eaazhisai KANDIAH	<i>Received at ESRF:</i>
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**Report:**

We have applied for time on the Titan KRIOS (CM01) as a member of the France BAG (MX2441) coordinated by Laurent TERRADOT. The propose is to get structural information on PatAB a heterodimer ABC transporter Multidrug involved in the resistance to fluoroquinolones. We study the intricate molecular mechanism (spectrum of drug recognition, nucleotide hydrolysis mechanism of this transporter. Its functions according to an asymmetric catalytic cycle, remains obscure because its two nucleotide-binding sites are non-equivalent.

The session was scheduled on 10<sup>th</sup> July and data were collected remotely. Three home-screened grids (quantifoil R1.2/1.3 Au 200 mesh) were sent to ESRF. A multi-grid session was performed on two grids of the sample prepared into two different buffers. The session was finished Wednesday 12<sup>th</sup> morning.

12134 micrographs were collected on the first grid and 16534 on the second grid. The ESRF processing pipeline indicates that the majority of micrograph has a resolution below 3 ang. And 2D classification performed on a small set of particles shows 2D classes with very nice details ( figure1).



Figure 1 : Several 2D classes extracted from 2D classification performed on a small data set ( from ESRFprocessing pipeline)

The file transfer from ESRF to our server took more than two weeks. We have currently starting to process the data. Based on the quality of the ESRF processing, we expected very good 2D classes and 3D reconstruction with a high resolution. The report will be updated once we perform full data processing.