

EPN BAG report
Siglec
13-15 April 2023
19-21 April 2023

The aim of this project was to solve the structure of the extracellular domain (ECD) of Siglec10, a small (~115 kDa) and flexible glycoprotein. Originally we planned to acquire a zero degrees data set during the first data collection and a tilted, thirty five degrees data set, during the second data collection, because our preliminary analysis of a Glacios data set indicated a presence of a strongly preferred orientation. However, after discussion with the local contacts, a decision was made to rather opt for a massive data collection at zero degrees tilt. Circa 40 000 micrographs were acquired and are currently being processed. A first ~5.5 Å resolution map of the Siglec10-ECD dimer has been obtained from a fraction of the data set, and addition of more particles is expected to further improve this map and reach an atomic resolution. The current map already reveals interesting differences with the alphafold model and offers unprecedented insights into the inter-monomer interactions. In parallel, a second oligomeric assembly state has been identified and is currently being analysed.