

Experiment Report 2021:

ID30B (01.05.2021-02.05.2021)

The crystallization experiments which were evaluated during this shift at the ESRF included protein crystals of variants of the Na⁺/H⁺-antiporter of *S. thyphimurium* (STNhaA). Previous work done on this protein (Lentes 2013, Lentes *et al.* 2014, Fippel 2017) already enabled steady crystallization of the WT protein as well as structure solution. Based upon these findings, variants of STNhaA were produced, which have amino acids likely to be essential in ion transport altered. Screening for crystallization conditions of the variants yielded crystals in a variety of conditions and most of them were measured at ID30B. In total 42 crystals were measured. Most of them showed very little diffraction while we could obtain decent data from 4 crystals at around 3-4 Å that enabled structure solution. Remote access during the shift worked quite flawlessly and we had no major issues during data collection.

Fippel, A. (2017). Identification of structural features that influence the function of the Na(+)/H(+) antiporter NhaA from Salmonella Thyphimurium. Freiburg, University of Freiburg.

Lentes, C. J. (2013). Structural and functional characterisation of the sodium proton antiporter NhaA from Salmonella enterica serovar Thyphimurium LT2. Freiburg, University of Freiburg.

Lentes, C. J., S. H. Mir, M. Boehm, C. Ganea, K. Fendler and C. Hunte (2014). "Molecular characterization of the Na⁺/H⁺-antiporter NhaA from Salmonella Typhimurium." PLoS One **9**(7): e101575.