ABSTRACT – Charlott Stock, Aarhus University

Production and purification of the K^+-dependent P-Type ATPase KdpFABC for crystallization and cryo-EM

At very low extracellular K^+ concentrations (<100 µM), KdpFABC rescues bacterial cells by taking up K^+ against an up to 10^5-fold concentration gradient. To understand the mechanism of this heterotetrameric complex, KdpFABC was purified for functional and structural investigations. A new expression system for *KdpFABC* was generated, a 3-step chromatographic purification implemented and protein functionality in different detergents as well as in the presence of inhibitors was tested. The work was performed in the lab of Prof. Inga Hänelt at the University of Frankfurt from 2014-2020.