

BAG report_Cusack_Kadlec (02/04/2021-05/04/2021)

CBC-m7GpppG-NCBP3560-620 (collaboration Cusack EMBL and Kadlec IBS)

To coordinate Pol II transcript maturation and degradation, the nuclear cap-binding complex (CBC) forms higher order, often mutually exclusive complexes with numerous event-specific factors. We aim to structurally characterise the interaction between CBC, ARS2 and NCBP3 by Cryo-EM, to reveal how NCBP3 productively impacts RNA biogenesis.

We performed 2 data collections at CM01 (02/04/2021 and 07/07/2021) on CBC-m7GpppG bound to NCBP3 (residues: 560-620) and same sample with added ARS2 (residues: 827-871) too. We processed both dates using CryoSPARC and we eventually obtained a 3.3 and a 3.1 Å maps for CBC-m7GpppG-NCBP3 and CBC-m7GpppG-NCBP3-ARS2. The high quality of the maps allowed successfully building both peptides and assigning sequences without ambiguities.