

KRAS Crystallography- Case study

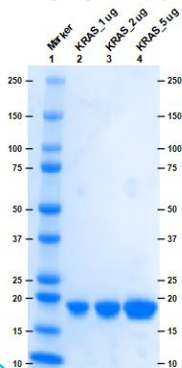
Construct

6xHis

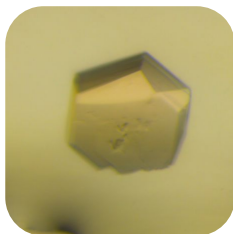
TEV

KRAS (2-166)

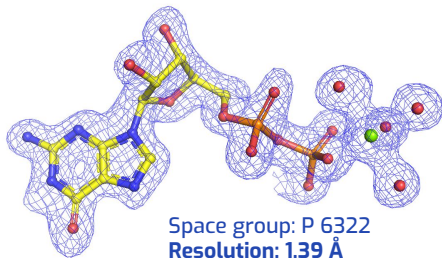
SDS-PAGE



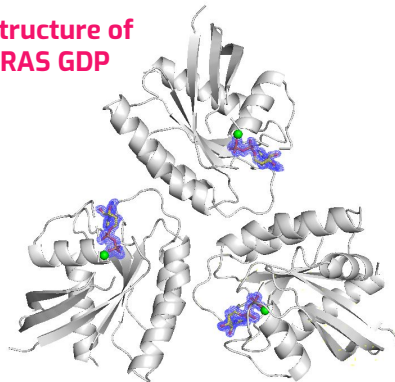
Crystal of KRAS GDP



Electron density maps (2Fo - Fc) contoured at 1.0σ-GDP-Mg-H2O

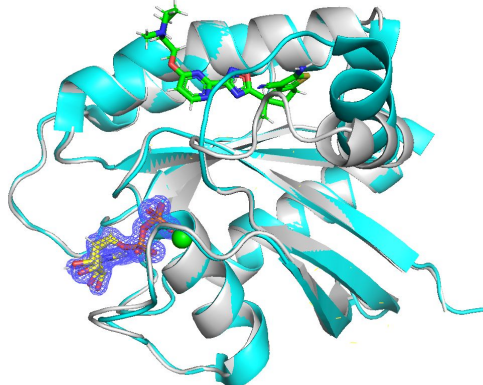


Structure of KRAS GDP



Trimer in ASU, yellow stick UDP, green sphere Mg

KRAS-GDP-MRTX1133



PDB-ID:7RPZ Cyan, MRTX1133 - green stick
with inhouse KRAS-GDP structure - grey

Partner

Internal Case study

Background

KRAS is one of the most frequently activated oncogene involved in 25% tumor. Understanding the structural insights of this crucial oncogene is pivotal

Aim

Showcase Arctoris' ability to produce high quality protein and crystallography platform

Our Approach

Construct design of KRAS (2-166) for *E. coli* expression →small scale expression test →large scale expression →purification by IMAC-cleavage-SEC (for GDP form) & nucleotide exchange with GppNHp-SEC →crystallization →diffraction →structure refinement

Value

- Data highlights Arctoris' capabilities in production of crystal grade quality protein and obtaining very high resolution crystal structures
- Structural data will be used for structure guided ligand design - Computational chemistry/ AI guided methods