



Service package 2: Structure determination

SP2

Structure determination

Through SP2, NorStruct offers evaluation, quality control and stability/solubility optimization, crystallization experiments, data collection either using the X-ray home source or synchrotron radiation, followed by structure determination and refinement.

Summary NorStruct Services

NorStruct will continue to offer state of the art services and collaboration in structural biology techniques to the Norwegian research community. High quality expertise and services will be assured via in-house research projects and national and international partnerships.

The services will be organized in three different service packages (SPs), whereby the services ordered are tailored to the customer's specific needs. The three SPs will be "Protein production" (SP1), "Structure determination" (SP2), and "Drug discovery and design" (SP3).

SP1

Subcloning, small-scale expression and purification
Large scale expression and purification
Protein expression optimization and refolding

SP2

Crystallization
Quality control and buffer optimization
Data collection and structure determination

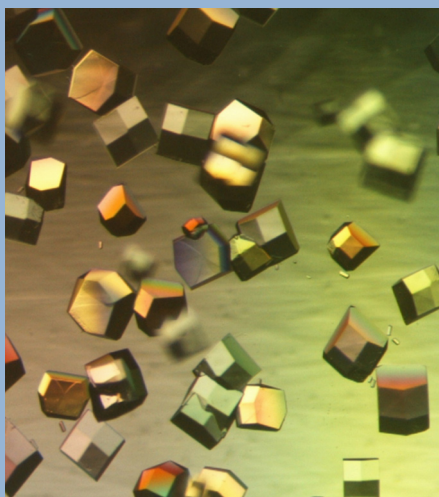
SP3

Protein ligand complexes
Molecular modeling/docking and virtual screening
Protein-ligand thermodynamic studies

Quality control

A standard service package for protein quality control and sample optimization includes:

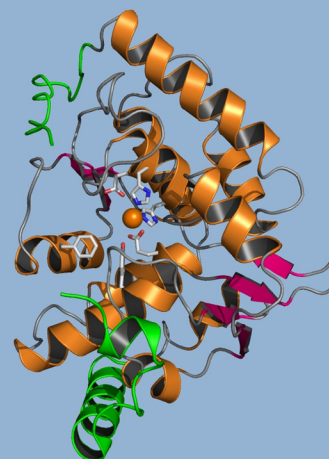
- Sample quality control using Dynamic Light Scattering analysis (DLS) or Differential Scanning Calorimetry (DSC)
- Screening for improved solubility and homogeneity in 24 different buffer conditions (pH), followed by testing 24 different additives.



Crystallization

A standard service package for crystallization includes:

- Robotics nanolitre crystallization trials for a minimum of 600 different conditions
- Optimization of crystallization conditions
- Determination of cryogenic conditions for data collection
- Crystal diffraction tests
- Outline of strategies for incorporation of anomalous scattering groups if needed.



Structure determination

A standard service package for data collection and structure determination includes:

- Collection of X-ray data at the NorStruct in-house X-ray system
- Assistance in obtaining synchrotron radiation beam-time
- Data collection at synchrotron radiation facilities
- Determination of the crystal structure using relevant techniques.

