

Protein Science In WuXi Biology

Protein Production

Benefiting from 15 years of expertise in protein production, the protein science platform in WuXi Biology has successfully served hundreds of global clients. Our protein science specialists in Munich and Suzhou sites are at the forefront of international drug discovery efforts, offering a wide range of services including protein production, isotope labeling, and customized conjugation across all target classes.

Comprehensive Technology



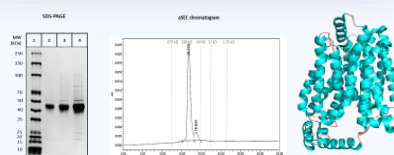
- Protein production sites in **Suzhou** and **Munich**
- Complete tech-support from end to end
- Comprehensive biophysical, biochemical, structure biology service available

Capacities



- Core protein production instruments **>30**
- **>98%** expression success rate in 2022 - 2023
- Annual protein production lots **>1200**
- Annual protein expression volume **> 10000 Liters**

Capabilities



Transmembrane Protein
GLUT1 (SLC2A1)

- Experienced in**
- Cancer and inflammation, neurodegeneration, epigenetic targets, immune system, RNA/DNA modifying proteins
 - Membrane proteins

In Vitro Assay & Structural Biology

In Vitro Assay Services

From cell line engineering to multidimensional hit characterization

Diverse Assay Types

- Strong portfolio of thousands of **biophysical, biochemical, and cell-based assays**

- > 80 proteins in ProTGo with validated biophysical, biochemical assays
- Scan the QR code or click the link <https://discoverybiology.wuxiapptec.com/protgo/> to visit our website for more information



All Protein Target Classes

- Membrane proteins (e.g., ion channels and GPCRs)
- Transcription factors
- Enzymes
- Others (e.g., cytokines, ubiquitin ligase and kinase etc.)

Various Modalities

- Small molecules (including covalent molecules)
- Peptides
- PROTAC® & molecular glues
- Antibody-drug conjugates
- Oligonucleotides

X-Ray Crystallography

- World most intense in-house light source with synchrotron-quality, immediate data collection
- Weekly access to various third-generation synchrotrons
- **Various service models suitable for different scenarios**
- **XPRESS**: Established protocols for protein production and crystallization (> 2 months turn-around time) and over 150 off-the-shelf targets
- **XPEDITE**: Gene-to-structure service based on published structures (3-4 months turn-around time)
- **XPERT**: Gene-to-structure service for challenging projects, *de novo* structure determination (> 4 months turn-around time)

NMR Spectroscopy

- Solution-state analysis, real-time conformational changes can be detected
- Provide binding position and affinity information
- Deliver SAR information

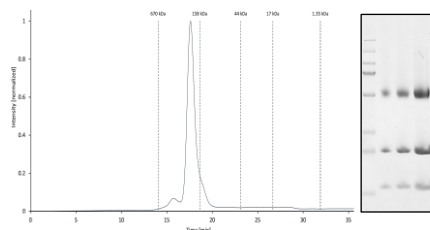
Cryo-EM

- Rapid regular access to state-of-the-art Cryo-EM infrastructure
- Suitable for protein complex and membrane protein

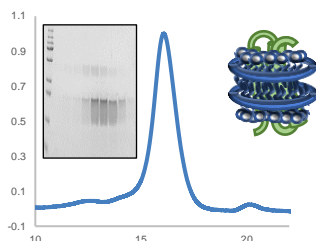
Case Study: GPCR / Membrane Protein

Tailored to downstream application

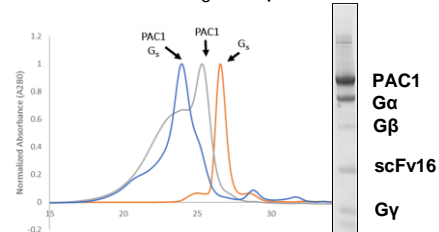
Muscarin receptor-Nb-Fab complex



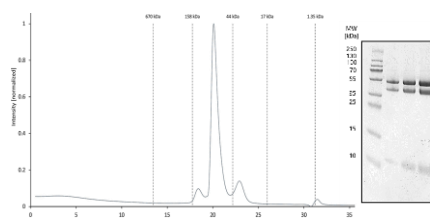
CNR1 in nanodiscs



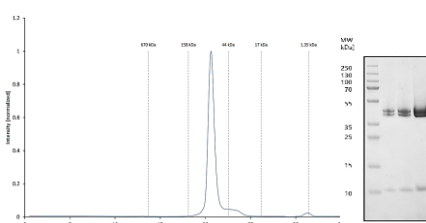
PAC1-G_s complex



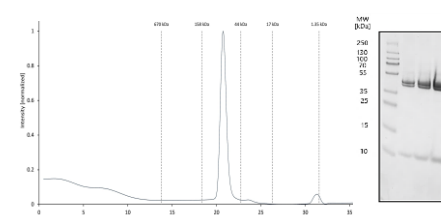
G-protein: Gas-β-γ



G-protein: Gai-β-γ

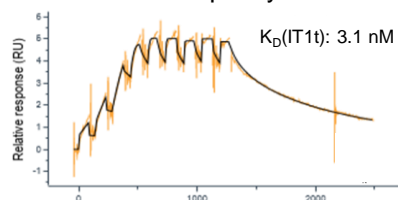


G-protein: Gαq-β-γ

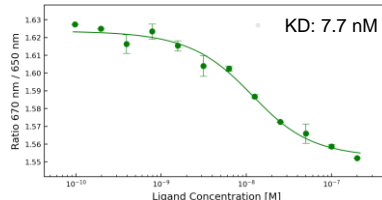


Assessing small molecule binding by SPR, MST and nanoDSF

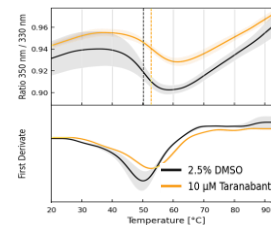
SPR: CXCR4 in lipid system vs IT1t



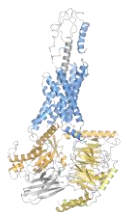
MST: GLUT1 vs BAY-876



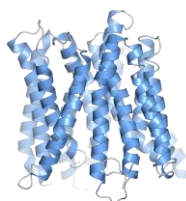
nanoDSF: CNR1 vs Taranabant



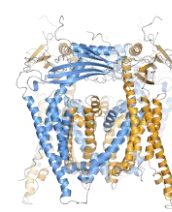
Single particle cryo-EM & X-ray crystallography



PAC1-Gs complex
by cryo-EM



Peptide transporter
by LCP / X-ray



TRPML1
by cryo-EM



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