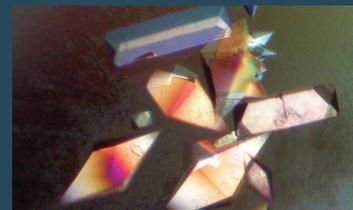
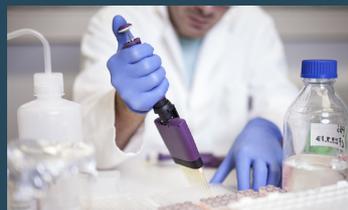
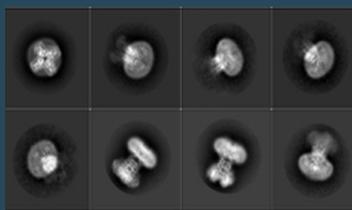


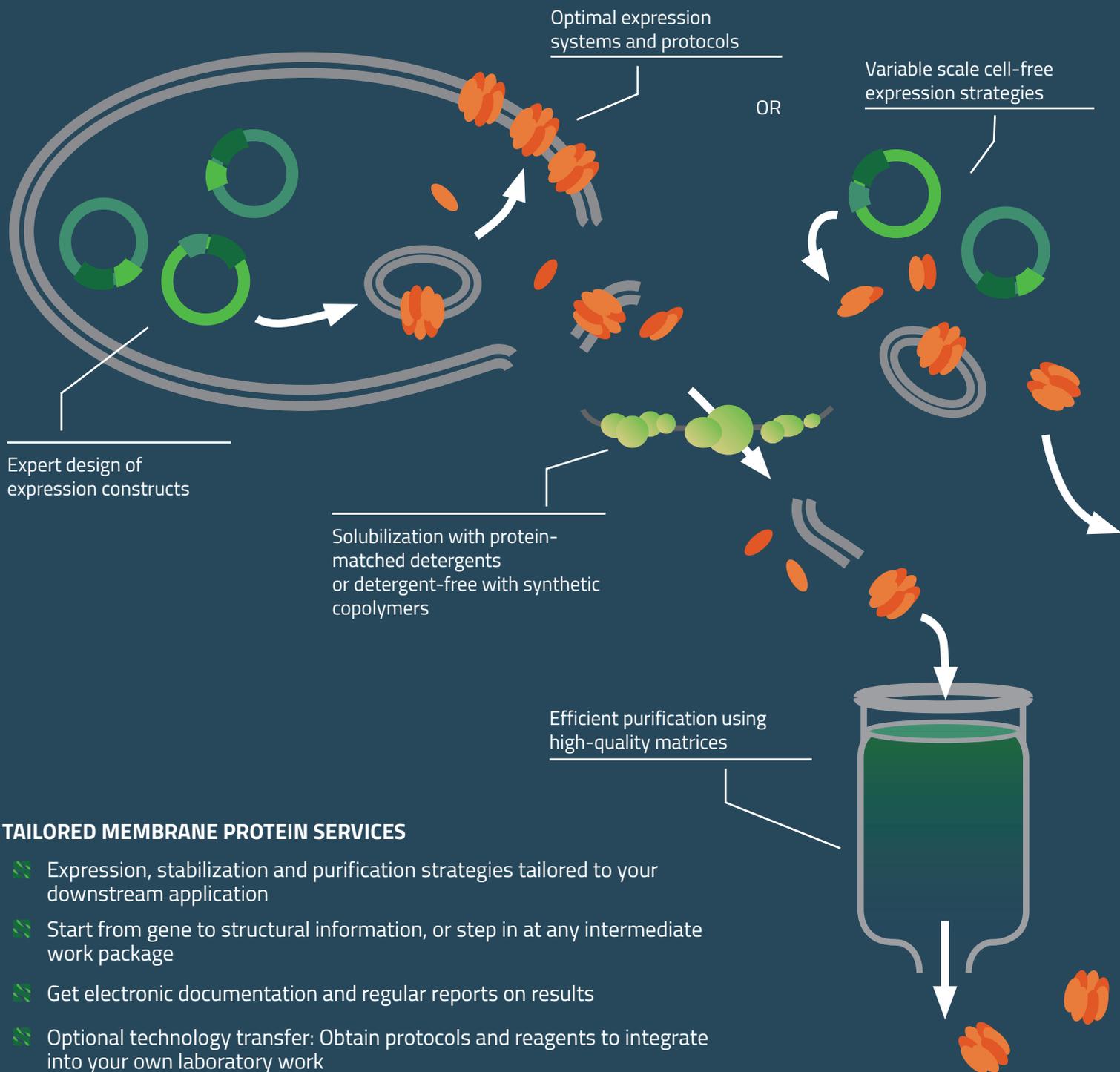
MEMBRANE PROTEIN SAMPLE PREPARATION
FOR
LIGAND SCREENING & DIAGNOSTIC ASSAYS
CRYO-ELECTRON MICROSCOPY
ANTIBODY GENERATION
CRYSTALLIZATION



Our tools and expertise. Your insights.



Cube Biotech



TAILORED MEMBRANE PROTEIN SERVICES

- ⚡ Expression, stabilization and purification strategies tailored to your downstream application
- ⚡ Start from gene to structural information, or step in at any intermediate work package
- ⚡ Get electronic documentation and regular reports on results
- ⚡ Optional technology transfer: Obtain protocols and reagents to integrate into your own laboratory work

SOURCE PURE, STABILIZED MEMBRANE PROTEINS TAILORED FOR EVERY APPLICATION

MEMBRANE PROTEIN EXPRESSION

- 📄 Baculovirus expression in Sf9 or T.ni (High Five™) insect cells, up to 50 L scale
- 📄 BacMam system in HEK 293 suspension cells, up to 30 L scale
- 📄 E.coli-based cell-free expression system in combination with different stabilization systems

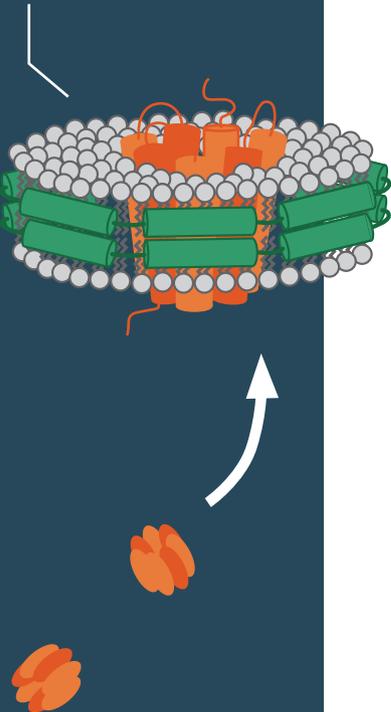
MEMBRANE PROTEIN SOLUBILIZATION

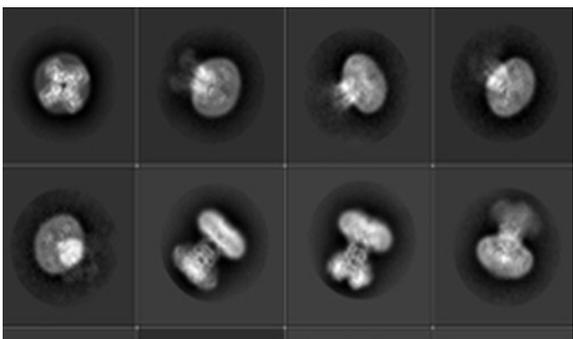
- 📄 Synthetic copolymers, 100% detergent-free
- 📄 High purity detergents

MEMBRANE PROTEIN STABILIZATION

- 📄 Nanodiscs designed with differently sized, tagged, and labeled scaffold proteins from various species
- 📄 Synthetic copolymers, 100% detergent-free
- 📄 Amphipols

Nanodiscs designed with different scaffold proteins and phospholipids to ensure membrane protein activity





CRYO-ELECTRON MICROSCOPY

- Highly purified, monodisperse membrane protein samples
- A project organized in feedback loops to optimize sample quality for resolution in cryo-EM
- Close collaboration with network partner for cryo-EM measurement and data analysis



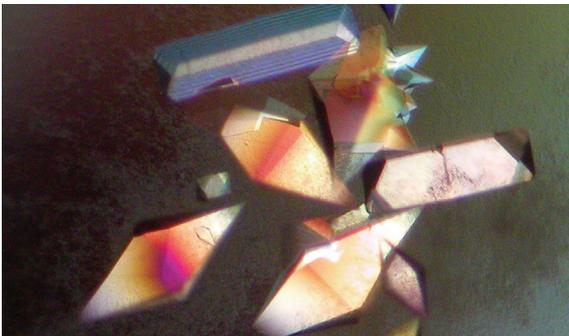
LIGAND SCREENING & DIAGNOSTIC ASSAYS

- Membrane proteins stabilized in biotinylated nanodiscs or synthetic copolymers to facilitate assay setup
- SPR ligand screening, ELISA binding studies, and label-free assays for drug development
- Stabilized membrane proteins for diagnostic assay development



ANTIBODY GENERATION

- Membrane proteins stabilized in nanodisc scaffold proteins from relevant species [mouse, rat, alpaca] to minimize background
- Biotinylated nanodiscs to facilitate screening
- Production scale tailored to your application and project phase



PROTEIN CRYSTALLIZATION

- Production of sufficient protein to optimize and carry out crystallization
- Selection and optimization of protein crystallization and protein:ligand cocrystallization conditions
- Synchrotron measurement of crystals
- Complete characterization and protein structure solving

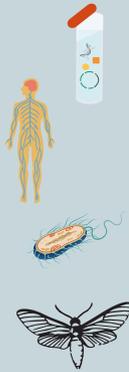
Module 1 PROTEIN EXPRESSION

Cell-free Systems

Hek293 cells

E. coli

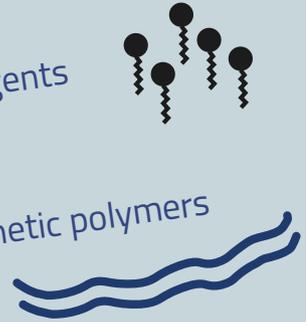
Insect System



Module 2 PROTEIN SOLUBILIZATION

Detergents

Synthetic polymers



Module 4 PROTEIN PURIFICATION

Protein specific
chromatography

Affinity chromatography
(Affinity tag)



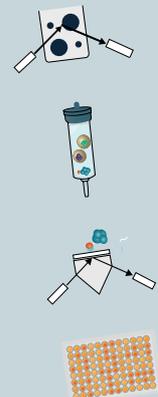
Module 5 PROTEIN CHARACTERIZATION

Dynamic light
scattering

Size exclusion
chromatography

Surface plasmon
resonance

ELISA

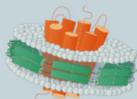


Module 3 PROTEIN STABILIZATION

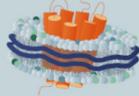
Detergent



MSP Nanodiscs



Synthetic Nanodiscs &
Amphipols

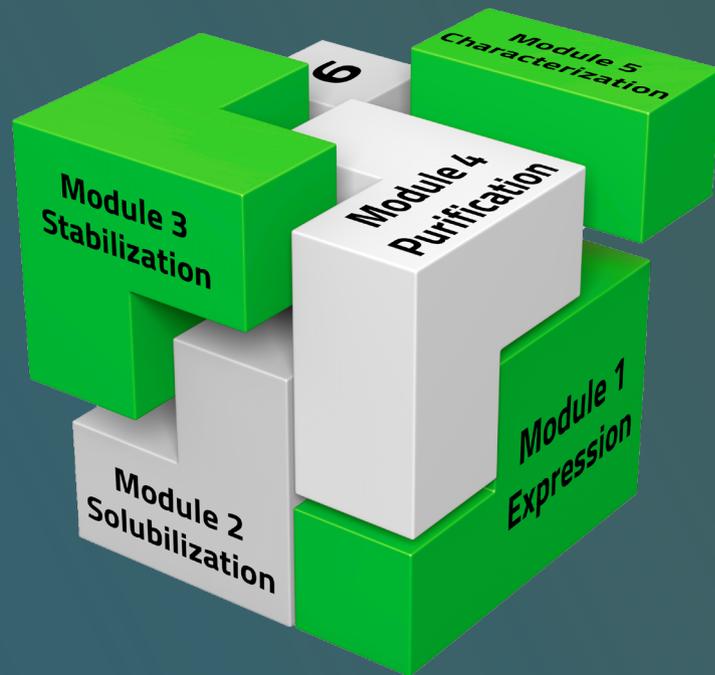
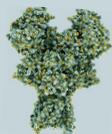


Module 6 STRUCTURE DETERMINATION

Crystallization



Cryo-EM



OUR SERVICES ARE

PASSIONATE. With our passion, we take your projects to success.

MODULAR. You pick and choose the components that should be included in your project.

UNRESTRICTED. We are not tied to a single, proprietary method. We find and use the methods that deliver answers.

COMPREHENSIVE. You receive expert advice, precise project management, regular updates, and detailed documentation.

IMPLEMENTATION-READY. The protocols and consumables we develop are yours to integrate into your work.