**Abbreviations**

**AA**: amino acid

**CAT**: chloramphenicol acetyl transferase, **CATM**: C-alpha transmembrane, **CTX**:

**FACS**: Fluorescence-activated cell sorting, **FRET**: Förster resonance energy transfer

**GFP**: green fluorescent protein, **GpA**: glycophorin A

**MBP**: maltose binding protein, **MC**: Monte Carlo, **MD**: molecular dynamics, **MP**: membrane protein, **MSA**: multiple sequence alignment, **MSL**: molecular software library

**NGS**: next-generation sequencing

**OPM**: orientations of membrane proteins

**PBS**: phosphate buffer saline, **PCR**: polymerase chain reaction, **PDB**: Protein Data Bank

**SASA**: solvent accessible surface area, **SDS-PAGE**: sodium dodecyl sulfate polyacrylamide gel electrophoresis, **SE-AUC**: sedimentation equilibrium analytical ultracentrifugation

**TM**: transmembrane, **TMD**: transmembrane domain, **TMH**: transmembrane helices, **tRFP**: TagRFP-t

**vdW**: van der Waals

**WT**: wild-type