**Abbreviations**

AA: amino acid

FACS: Fluorescence-activated cell sorting

GFP: green fluorescent protein, GpA: glycophorin A

MBP: maltose binding protein, MSL: molecular software library

NGS: next-generation sequencing

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

SDS-PAGE: sodium dodecyl sulfate polyacrylamide gel electrophoresis

TM: transmembrane, TMD: transmembrane domain,

WT: wild-type