

MSP Starter Kit for In Vitro Protein Synthesis (-His)

Cat. No.: 26702

Description	The MSP Starter Kit for In Vitro Protein Synthesis is ready to use for cell-free protein synthesis: it contains 8 different pre-assembled MSP-nanodiscs, which can be added directly to the expression reaction so the membrane protein inserts co-translationally into a membrane with predefined lipid composition, no detergents or post-synthesis reconstitution needed. This selection of MSP pre-assembled nanodiscs is particularly well suited for GPCRs. Two scaffold sizes (MSP1D1, MSP1E3D1) × four lipid compositions (DOPG; DOPG/Cardiolipin; POPC/POPS; POPC/POPS/Cholesterol) allow quick identification of the best-performing condition, manually or on a liquid handler. The His-tag enables fast affinity purification, and matching Scale-up vials carry the winning condition forward to µg-to-mg quantities of purified, functional membrane protein.
Form	pre-assembled MSP nanodisc
Amount	8 x 7.5 µL (500 µM)
Available origins	Human
Purity	> 90% (Determined by SDS-PAGE)
Number of amino acids	MSP1D1 - His: 217 MSP1E3D1-His: 277
Molecular mass	MSP1D1-His: 25.3 kDa MSP1E3D1-His: 32.6 kDa
Extinction coefficient (in H₂O) ε₂₈₀	MSP1D1-His: 25,440 M ⁻¹ cm ⁻¹ MSP1E3D1-His: 29,400 M ⁻¹ cm ⁻¹
Buffer	20 mM TRIS pH 7.4; 100 mM NaCl; 0.5 mM EDTA
Affinity tag	N-Terminal His-tag
Stability & Storage	-80° C for 18 months Avoid repeated freeze-thaw cycles
Shipping	Dry ice
Hazards	Product is not classified as hazardous according to (EC) No 1272/2008 [CLP]. A Material Safety Data Sheet is provided.

Application	Primarily used in cell-free (in vitro) synthesis to screen and identify the best-performing nanodisc condition for a given GPCR. The His-tag then enables fast, affinity-based purification of the reconstituted receptor, supporting downstream structural studies (e.g. cryo-EM), ligand-binding and functional assays, and early-stage drug discovery screening.
Recommended usage	In Vitro Protein Synthesis 5–75 µM (0.5–7.5 µL)
Manufacturer	Cube Biotech

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