MSP1E3D1 “Ultra Bright”, human

Cat. No.: 26662

Description	MSP1E3D1 “Ultra Bright” is a membrane scaffold protein (MSP) derived from apolipoprotein A-I that wraps around a phospholipid bilayer patch to form stable, water-soluble nanodiscs of 12–14 nm in diameter, enabling the stabilization of membrane proteins in a defined lipid environment. Its defining feature is the addition of three tryptophan residues in sequence, resulting in a significantly increased intrinsic fluorescence of the scaffold protein itself.
Form	Lyophilized
Amount	2 mg
Available origins	Human
Purity	> 90% (Determined by SDS-PAGE)
Number of amino acids	256
Molecular mass	30.19 kDa
Extinction coefficient (in H_2O) ε_{280}	Ext. coefficient 47440 Abs 0.1% (=1 g/l) 1.571
Buffer	20 mM TRIS pH 7.4, 100 mM NaCl, 0.5 mM EDTA
Affinity tag	No tag
Sequence	G STFSKLREQLG PVTQEFWDNLEKETEGLRQEMS KDLEEVKAKVQ PYLDDFQKKWQEEMELYRQKVE PLRAELQEGARQKLHELWEKLS PLGEEMRDRARAHVDALRTHLA PYLDDFQKKWQEEMELYRQKVE PLRAELQEGARQKLHELWEKLS PLGEEMRDRARAHVDALRTHLA PYSDELRQRLAARLEAWKENGG ARLAEYHAKATEHLSTLSEKAK PALEDLRQGLL PVLESFKVSFLSALEEWTKKLNTQ
Stability & Storage	Lyophilized protein: stable at -20°C for 24 months. Reconstituted protein: stable at 2-8°C for several days.
Shipping	Room temperature
Hazards	Product is not classified as hazardous according to (EC) No 1272/2008 [CLP]. A Material Safety Data Sheet is provided.

Cube Biotech GmbH | Creative Campus Monheim | Creative-Campus-Allee 12 | D-40789 Monheim | Germany
Tel.: +49 (2173) 993730 | Fax: +49 (2173) 99 373 99 | info@cube-biotech.com

Application	The increased intrinsic fluorescence of MSP1E3D1 "Ultra Bright" allows easy detection and monitoring of nanodisc properties without exogenous labels, and enables its use as an intrinsic FRET donor for labeled proteins. It further supports binding studies via analytical ultracentrifugation (AUC) and microscale thermophoresis (MST) without the need for extrinsic fluorophores. Beyond its fluorescence advantages, MSP1E3D1 "Ultra Bright" is suited for Cryo-EM, ELISA, protein-protein interaction studies, and cell-free expression systems, supporting a broad range of biomedical, proteomic, and protein biochemistry applications.
Recommended usage	ELISA: dilute 1:100
Manufacturer	Cube Biotech

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