

MSP1E3D1 “Ultra Dark”, human

Cat. No.: 26462 (2 mg)

Description	MSP1E3D1 "Ultra Dark" is a membrane scaffold protein (MSP) derived from apolipoprotein A-I that wraps around a phospholipid bilayer patch to form stable, water-soluble nanodiscs, enabling detergent-free solubilization and stabilization of membrane proteins in a near-native lipid environment. Its defining feature is the replacement of all tryptophan and tyrosine residues with non-fluorescent side chains, resulting in almost non-detectable UV absorbance.
Form	Lyophilized
Amount	2 mg
Available origins	Human
Purity	> 90% (Determined by SDS-PAGE)
Number of amino acids	256
Molecular mass	29.75 kDa
Extinction coefficient (in H₂O) ϵ_{280}	Ext. coefficient -- Abs 0.1% (=1 g/l) --
Buffer	20 mM TRIS pH 7.4, 100 mM NaCl, 0.5 mM EDTA
Affinity tag	No tag
Sequence	G STFSKLREQLG PVTQEFFDNLEKETEGLRQEMS KDLEEVKAKVQ PFLDDFQKKFQEEMELFRQKVE PLRAELQEGARQKLHELQEKLS PLGEEMRDRARAHVDALRTHLA PFLDDFQKKFQEEMELFRQKVE PLRAELQEGARQKLHELQEKLS PLGEEMRDRARAHVDALRTHLA PFSDRLRQRLAARLEALKENG ARLAEFHAKATEHLSTLSEKAK PALEDLRQGLL PVLESFKVSFLSALEEFTKKLNTQ
Stability & Storage	Lyophilized protein: stable at -20°C for several 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.
Application	

Recommended usage	The reduced UV absorption at 280 nm makes MSP1E3D1 "Ultra Dark" particularly advantageous over standard MSPs and alternative solubilization agents such as AASTY or SMA, enabling reliable UV-Vis based concentration determination and significantly reduced background interference in fluorescence-based assays and label-free detection methods. Beyond its spectroscopic advantages, MSP1E3D1 "Ultra Dark" is well suited for Cryo-EM, ELISA, and protein-protein interaction studies where unrestricted ligand access is required, and is further compatible with cell-free expression systems and a broad range of biomedical, proteomic, and protein biochemistry applications.
Manufacturer	Cube Biotech

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