

## MSP1E3D1-His “Dark”, human

Cat. No.: 26352 (2 mg)

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Description</b>                                                            | MSP1E3D1-His “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 residues with phenylalanine, resulting in a significantly reduced absorption signal at 280 nm. |
| <b>Form</b>                                                                   | Lyophilized                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Amount</b>                                                                 | 2 mg                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Available origins</b>                                                      | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Purity</b>                                                                 | > 90% (Determined by SDS-PAGE)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Number of amino acids</b>                                                  | 277                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Molecular mass</b>                                                         | 32.48 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Extinction coefficient (in H<sub>2</sub>O) <math>\epsilon_{280}</math></b> | Ext. coefficient 13410<br>Abs 0.1% (=1 g/l) 0.413                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Buffer</b>                                                                 | 20 mM TRIS pH 7.4, 100 mM NaCl, 0.5 mM EDTA                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Affinity tag</b>                                                           | His tag                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Sequence</b>                                                               | GHHHHHHH DYDIPTT ENLYFQG STFSKLREQLG PVTQEFDNLEKETEGLRQEMS KDLEEVKAKVQ<br>PYLDDFQKKFQEEMELYRQKVE PLRAELQEGARQKLHELQEKLS PLGEEMRDRARAHVDALRTHLA<br>PYLDDFQKKFQEEMELYRQKVE PLRAELQEGARQKLHELQEKLS PLGEEMRDRARAHVDALRTHLA<br>PYSDELRLQRLAARLEALKENGGA ARLAEYHAKATEHLSTLSEKAK PALEDLRQGGL<br>PVLESFKVSFLSALEEYTKKLNTQ                                                                                                                                           |
| <b>Stability &amp; Storage</b>                                                | Lyophilized protein: stable at -20°C for several months.<br>Reconstituted protein: stable at 2-8°C for several days.                                                                                                                                                                                                                                                                                                                                        |
| <b>Shipping</b>                                                               | Room temperature                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Hazards</b>                                                                | Product is not classified as hazardous according to (EC) No 1272/2008 [CLP].<br>A Material Safety Data Sheet is provided.                                                                                                                                                                                                                                                                                                                                   |

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| <b>Application</b>       | MSP1E3D1-His "Dark" enables reliable UV-Vis based concentration determination and reduces background interference in fluorescence-based assays and label-free detection methods, offering a clear advantage over standard MSPs and alternative solubilization agents such as AASTY or SMA. It is further 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. |
| <b>Recommended usage</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Manufacturer</b>      | Cube Biotech                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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