

## MSP1D1-His “Dark”, human

Cat. No.: 26312

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| <b>Description</b>                                                                | MSP1D1-His 'Dark' is a His-tagged membrane scaffold protein (MSP) derived from apolipoprotein A-I that wraps around a phospholipid bilayer patch to form stable, water-soluble nanodiscs of approximately 9.8 nm in diameter, enabling the stabilization of membrane proteins in a defined lipid environment. Its defining feature is the replacement of all tryptophan residues with phenylalanine, resulting in a significantly reduced intrinsic fluorescence of the scaffold protein itself. This product contains a His-tag, keep that in mind when choosing the affinity tag for your membrane protein. |
| <b>Form</b>                                                                       | Lyophilized                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Amount</b>                                                                     | 2 mg or 10 mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Available origins</b>                                                          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Purity</b>                                                                     | > 90% (Determined by SDS-PAGE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Number of amino acids</b>                                                      | 222                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Molecular mass</b>                                                             | 25.83 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Extinction coefficient<br/>(in H<sub>2</sub>O) <math>\epsilon_{280}</math></b> | Ext. coefficient 10430<br>Abs 0.1% (=1 g/l) 0.404                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Buffer</b>                                                                     | 20 mM TRIS pH 7.4; 100 mM NaCl; 0.5 mM EDTA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Affinity tag</b>                                                               | His                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Sequence</b>                                                                   | GHHHHHHH DYDIPTT ENLYFQG LKLLDNFD SVTSTF SKLREQ L G PVTQE FFDNLEKETEG LRQEMS<br>KDLEEVKAKVQ PYLDDFQKKFQEEMELYRQKVE PLRAELQEGARQKLHELQEKLS<br>PLGEEMRDRARAHVDALRTHLA PYSDELQRLAARLEALKENGG ARLA EYHAKATEHLSTLSEKAK<br>PALEDLRQGLL PVLESFKVSFLSALEEYTKKLNTQ                                                                                                                                                                                                                                                                                                                                                     |
| <b>Stability &amp; Storage</b>                                                    | Lyophilized protein: stable at -20°C for 24 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].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|                          | A Material Safety Data Sheet is provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Application</b>       | MSP1D1-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> | ELISA: dilute 1:100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Manufacturer</b>      | Cube Biotech                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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