FITC-Labeled Human MSP1D1 Protein, His Tag (Nanodisc)

Catalog # APC-HF1H3

Synonym

MSP1D1

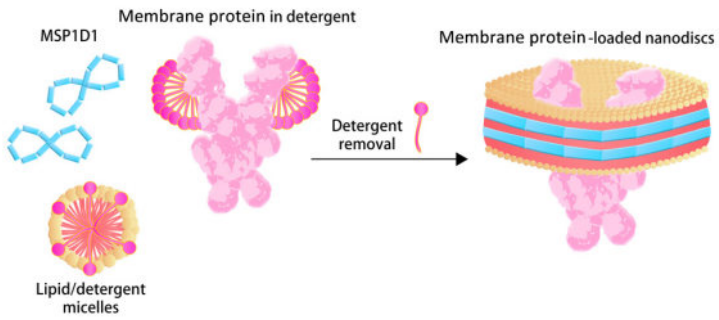
Source

FITC-Labeled Human MSP1D1 Protein, His Tag is expressed from E. coli cells.
It contains AA Gly 1- Gln 211.
Predicted N-terminus: Met

Molecular Characterization

This protein carries a polyhistidine tag at the N-terminus. The protein has a calculated MW of 24.7 kDa. The protein migrates as 20-30 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE). This protein is used together with nanodisc protein as isotype control.

Nanodiscs are a new class of model membranes that are being used to solubilize and study a range of integral membrane proteins and membrane-associated proteins. The Nanodisc bilayer is bounded by a membrane scaffold protein (MSP1D1) coat that confers enhanced stability and a narrow particle size distribution.



The nanodisc assembles from a mixture of full length membrane protein in detergent, phospholipid micelles and membrane scaffold protein(MSP1D1) upon removal of the detergent.

Conjugate

FITC

Excitation source: 488 nm spectral line, argon-ion laser

Excitation Wavelength: 488 nm

Emission Wavelength: 535 nm

Labeling

The primary amines in the side chains of lysine residues and the N-terminus of the protein are conjugated with FITC using standard chemical labeling method. The residual FITC is removed by molecular sieve treatment during purification process.

*The isotype control of empty/mock nanodisc (Cat. No. APO-H51H3) is sold separately and not included in protein, you can follow this link for product information.

Purity

>90% as determined by SDS-PAGE.

Formulation

Supplied as 0.2 μm filtered solution in 20 mM HEPES, 150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

Shipping

This product is supplied and shipped with dry ice, please inquire the shipping cost.

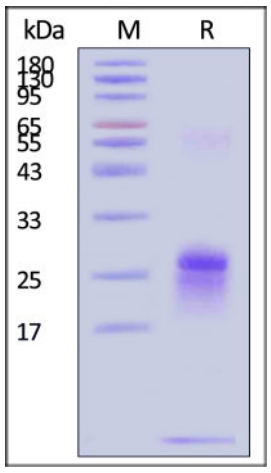
Storage

Please protect from light and avoid repeated freeze-thaw cycles.

This product is stable after storage at:

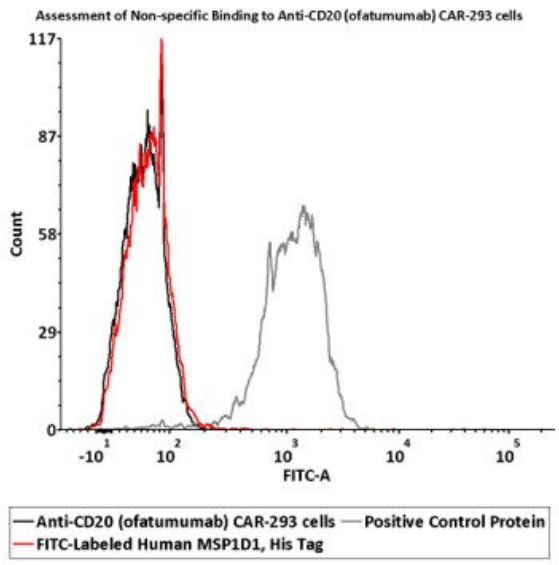
- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 12 months under sterile conditions.

SDS-PAGE



FITC-Labeled Human MSP1D1 Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

Bioactivity-FACS



2e5 of Anti-CD20 (ofatumumab) CAR-293 cells were stained with 100 μL of 1 μg/mL of FITC-Labeled Human MSP1D1 Protein, His Tag (Nanodisc) (Cat. No. APC-HF1H3) and positive control protein respectively, washed and then analyzed with FACS (QC tested).

Background

Membrane scaffold proteins (MSPs) are synthetic derivatives of apolipoprotein A-I, a major protein component of human high-density lipoprotein complexes. Membrane scaffold protein 1D1 (MSP1D1) is the most common one among the MSPs variants. MSP1D1 is a synthetic derivate of apolipoprotein A-I, which is the major protein element of human high-density lipoproteins. The amphipathic, synthetic protein has the ability to self-assemble in the presence of synthetic phospholipids into discoidal nanoparticles, so called nanodiscs.