

Biotinylated Human CD133 Protein, His,Flag&Avitag™ (Nanodisc)

Catalog # CD3-H82D4



BIOSYSTEMS
Acro

Application

- Cell based assay (FACS or functional assay)
- Affinity testing ([SPR](#) / [BLI](#))
- Screening ([ELISA](#))

Synonyms

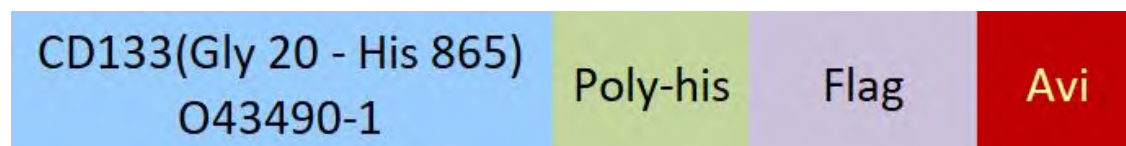
CD133, PROM1, PROML1, Prominin-1, AC133

Source

Nanodisc Biotinylated Human CD133 Protein, His,Flag&Avitag (CD3-H82D4) is expressed from human 293 cells (HEK293). It contains AA Gly 20 - His 865 (Accession # [O43490-1](#)).

Predicted N-terminus: Gly 20

Molecular Characterization

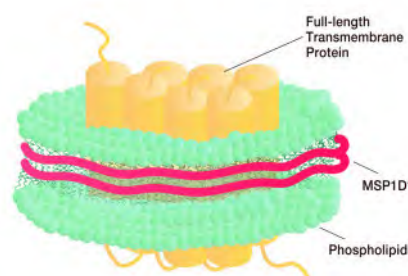


This protein carries a polyhistidine tag and a Flag tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 100.6 kDa. The protein migrates as 25 kDa and 95-130 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

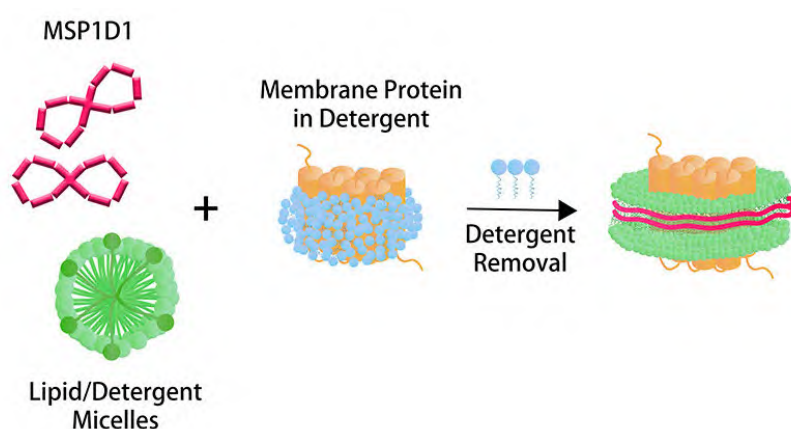
*The isotype control of empty/mock nanodisc (Cat. No. [APO-H81Q5](#)) is sold separately and not included in protein, you can follow [the link](#) for product information.

• Structure



Nanodisc membrane protein is wrapped by a synthetic phospholipid bilayer membrane structure, composed of membrane scaffold proteins (MSPs) and phospholipids.

• Synthesis Process



Nanodisc reconstitution is a self-assembly process that **starts from purified, detergent-solubilized membrane proteins** and reconstitutes them into synthetic phospholipid bilayers stabilized by MSP1D1 membrane scaffold protein. This creates a stable, detergent-free environment that preserves native conformation and biological activity, with excellent homogeneity and full compatibility with **cell-based assays such as FACS** and binding assays in antibody discovery and screening (ELISA),etc.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the SABA assay / HABA assay / binding ELISA.

Purity

>80% 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 and Storage

This product is supplied and shipped on dry ice.

Please avoid repeated freeze-thaw cycles.

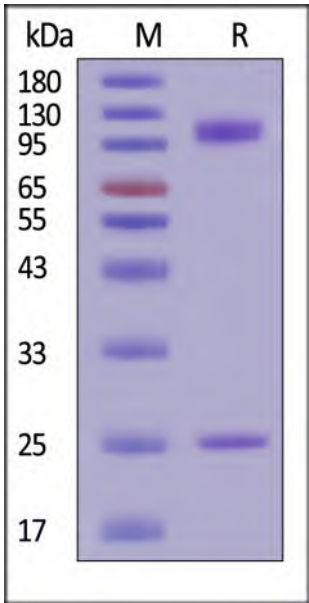
This product is stable after storage at:

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

ACRO Quality Management System

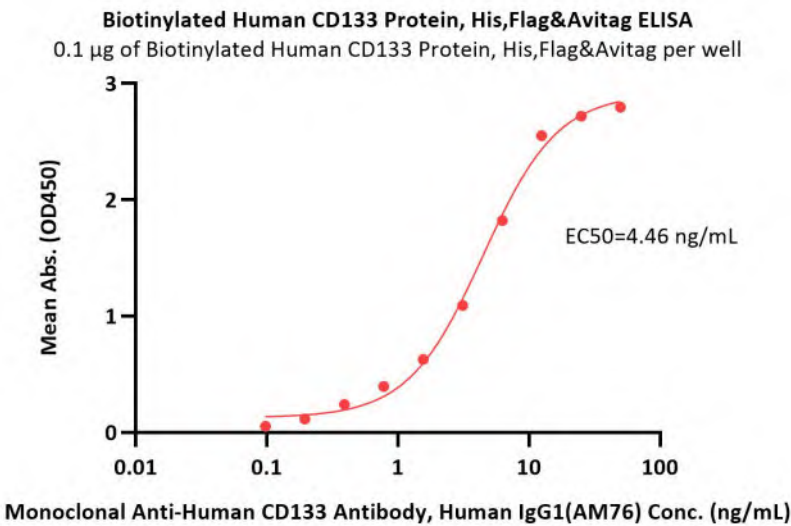
- [QMS\(ISO, GMP\)](#).
- [Quality Advantages](#)
- [Quality Control Process](#)

SDS-PAGE



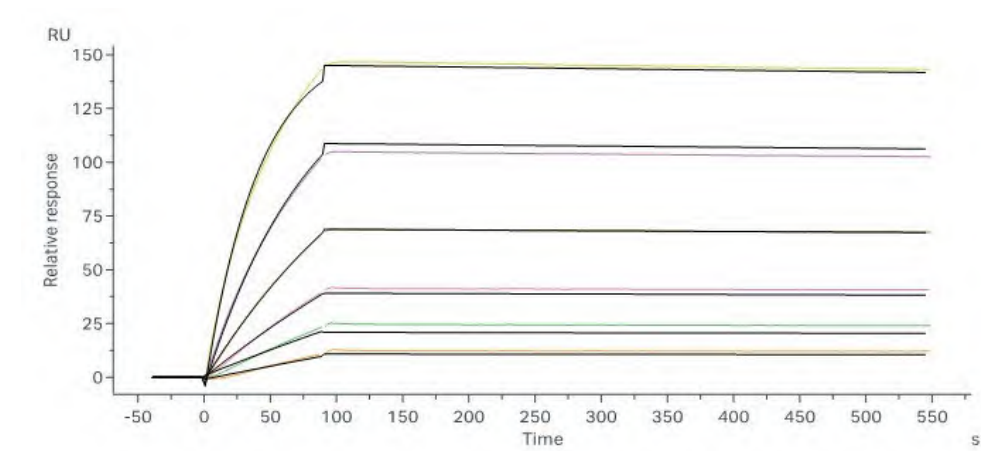
Biotinylated Human CD133 Protein, His,Flag&Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 80% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA



Immobilized Biotinylated Human CD133 Protein, His,Flag&Avitag (Cat. No. CD3-H82D4) at 1 μg/mL (100 μL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 μg/well) plate can bind Monoclonal Anti-Human CD133 Antibody, Human IgG1 (AM76) with a linear range of 0.1-13 ng/mL (QC tested).

Bioactivity-SPR



Biotinylated Human CD133 Protein, His,Flag&Avitag (Cat. No. CD3-H82D4) immobilized on SA Chip can bind Monoclonal Anti-Human CD133 Antibody, Human IgG1 with an affinity constant of 1.05 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Background

CD133 (Prominin-1), a pentaspan membrane glycoprotein marking cancer stem cells (CSCs) in glioblastoma, colorectal, and liver cancers. CD133+ cell populations exhibit enhanced tumor initiation, chemoresistance, and self-renewal capacity. It is a critical target for eradicating the CSC niche to prevent tumor relapse and metastasis.



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