

Biotinylated Human NY-ESO-1 TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein, His,Flag&Avitag™ (Nanodisc)

Catalog # NYZ-H82D3



BIOSYSTEMS
Acro

Application

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

Synonyms

NY-ESO-1 TCR & CD3E & CD3D & CD3G & CD3Z

Source

Nanodisc Biotinylated Human NY-ESO-1 TCR & CD3 Full Length Protein, His,Flag&Avitag (NYZ-H82D3) is expressed from human 293 cells (HEK293). It contains AA (Accession # [P07766-1](#) & [P04234-1](#) & [P09693-1](#) & [P20963-1](#)).

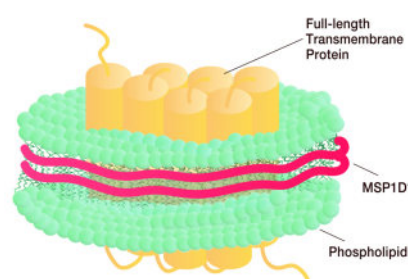
Predicted N-terminus: Phe

Molecular Characterization

The protein has a calculated MW of 67.0 kDa & 80.2 kDa. The protein migrates as 43 kDa, 55 kDa, 65-70 kDa and 95 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

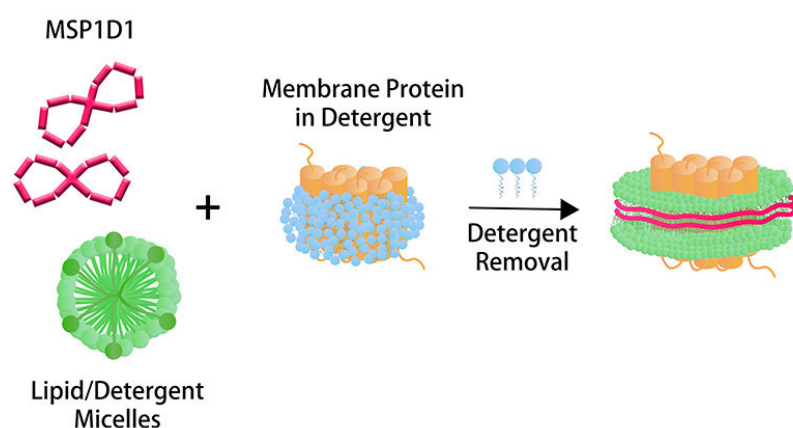
*The isotype control of empty/mock nanodisc (Cat. No. [APO-H81Q5](#)) is sold separately and not included in protein, you can follow [the link](#) for product information.

• 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 HABA assay / binding ELISA.

Endotoxin

Less than 1.0 EU per µg by the LAL method / rFC method.

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 glycerol 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.

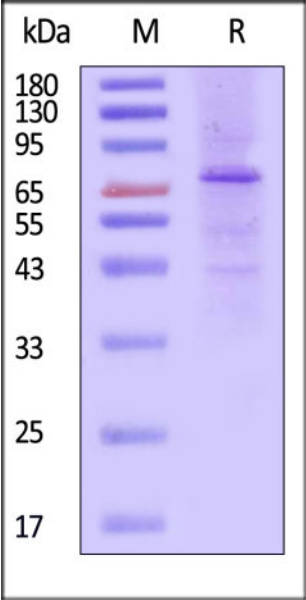
This product is stable after storage at:

- The product **MUST** be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

ACRO Quality Management System

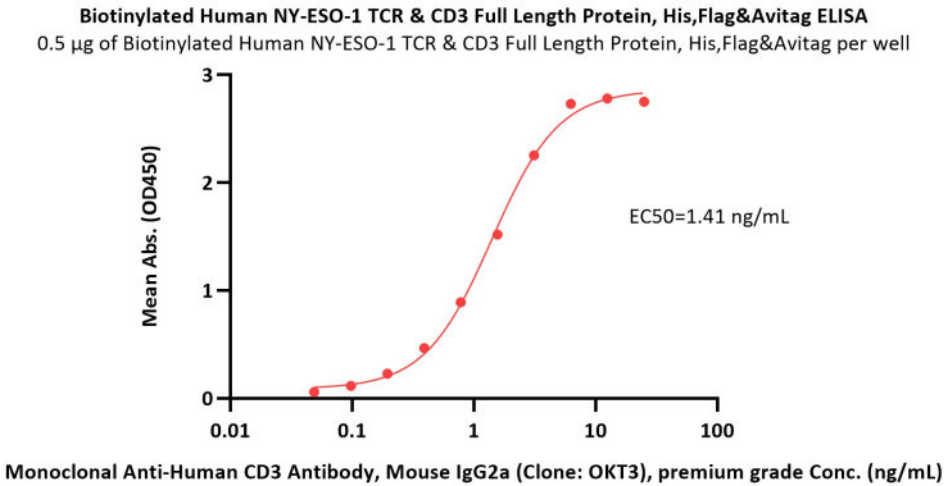
- [QMS\(ISO, GMP\)](#).
- [Quality Advantages](#)
- [Quality Control Process](#)

SDS-PAGE



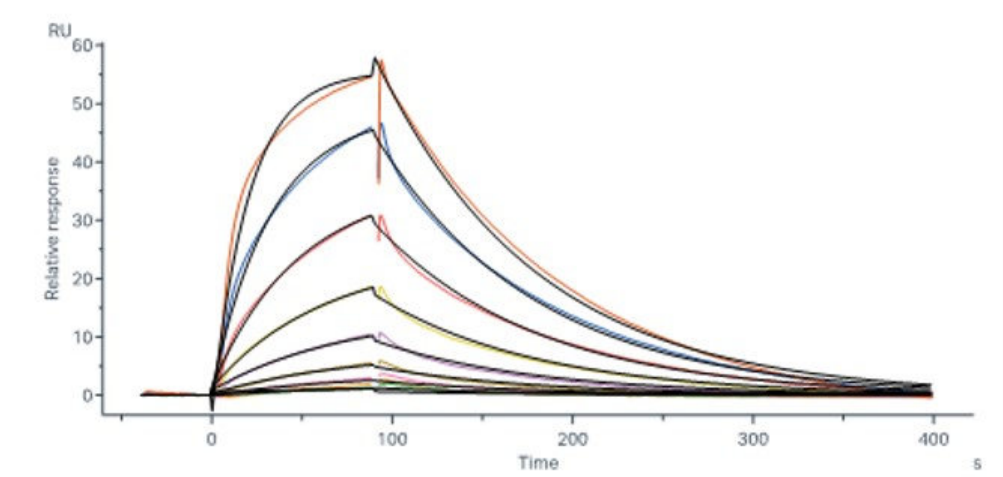
Biotinylated Human NY-ESO-1 TCR & CD3 Full Length Protein, His,Flag&Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA



Immobilized Biotinylated Human NY-ESO-1 TCR & CD3 Full Length Protein, His,Flag&Avitag (Cat. No. NYZ-H82D3) at 5 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG2a (Clone: OKT3), premium grade (Cat. No. CDE-M120a) with a linear range of 0.05-3 ng/mL (QC tested).

Bioactivity-SPR



Biotinylated Human NY-ESO-1 TCR & CD3 Full Length Protein, His,Flag&Avitag (Cat. No. NYZ-H82D3) immobilized on SA Chip can bind Unconjugated Human HLA-A*02:01&B2M&NY-ESO-1 (SLLMWITQC) Complex Protein (Cat. No. HL1-H82Ea) with an affinity constant of 1.04 μ M as determined in a SPR assay (Biacore 8K) (Routinely tested).

Background

Cluster of Differentiation 3 (CD3) is a pivotal multimeric T cell co-receptor complex essential for adaptive immune responses. Composed of epsilon (ϵ), gamma (γ), delta (δ), and zeta (ζ) polypeptide chains forming three distinct dimers ($\epsilon\gamma$, $\epsilon\delta$, $\zeta\zeta$), CD3 non-covalently associates with the T-cell receptor (TCR) to establish the critical TCR/CD3 receptor complex on T cell surfaces. Structurally, CD3 proteins belong to the immunoglobulin superfamily, featuring a transmembrane domain, an N-terminal extracellular region with immunoglobulin-like domains, and cytoplasmic tails embedded with immunoreceptor tyrosine-based activation motifs (ITAMs). These ITAMs are fundamental for initiating signal transduction upon T cell receptor engagement, thereby activating both CD4+ T helper and CD8+ cytotoxic T cells. As a defining marker of the T cell lineage, CD3's central role in T cell activation makes its modulation, via stimulating or blocking antibodies, a promising therapeutic avenue for conditions like organ transplant rejection and autoimmune diseases.

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