

Datasheet for ABIN7491695

## Malic Enzyme Complex, Mitochondrial (Mod2) Protein



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### 2 Images

#### Overview

Quantity:	100 µg
Target:	Malic Enzyme Complex, Mitochondrial (Mod2)
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Synthetic Nanodisc

#### Product Details

Purpose:	Human MDR-1 full length protein-synthetic nanodisc
Characteristics:	Unlike other membrane scaffold protein (MSP) Nanodisc on the market, our synthetic Nanodisc can be prepared directly from the cells. The polymers used during this process have a dual function. It dissolves the cell membranes, like the detergent, and uses cellular phospholipids to form Nanodisc around the membrane proteins. The target protein embedded Nanodiscs can then be purified.

#### Target Details

Target:	Malic Enzyme Complex, Mitochondrial (Mod2)
Alternative Name:	MDR-1 ( <a href="#">Mod2 Products</a> )
Background:	The membrane-associated protein encoded by this gene is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra- and intra-cellular membranes. ABC genes are divided into seven distinct subfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). This protein is a member of the MDR/TAP subfamily. Members of the MDR/TAP subfamily are involved in multidrug resistance. The

## Target Details

protein encoded by this gene is an ATP-dependent drug efflux pump for xenobiotic compounds with broad substrate specificity. It is responsible for decreased drug accumulation in multidrug-resistant cells and often mediates the development of resistance to anticancer drugs. This protein also functions as a transporter in the blood-brain barrier. Mutations in this gene are associated with colchicine resistance and Inflammatory bowel disease 13. Alternative splicing and the use of alternative promoters results in multiple transcript variants.

Molecular Weight: The human full length MDR-1 protein has a MW of 141.5 kDa

UniProt: [P08183](#)

## Application Details

Comment: Advantages of Synthetic Nanodiscs:

- Highly purified membrane proteins
- High solubility in aqueous solutions
- High stability
- Proteins are in a native membrane environment and remain biologically active
- No detergent and can be used for cell-based assays
- No MSP backbone proteins

Limitations of Synthetic Nanodiscs:

- Intolerant to acids and high concentrations of divalent metal ions

Restrictions: For Research Use only

## Handling

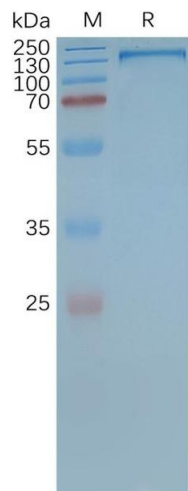
Format: Lyophilized

Buffer: Lyophilized from nanodisc solubilization buffer (20 mM Tris-HCl, 150 mM NaCl, pH 8.0). Normally 5 % - 8 % trehalose is added as protectants before lyophilization.

Storage: -20 °C,-80 °C

Storage Comment: Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.

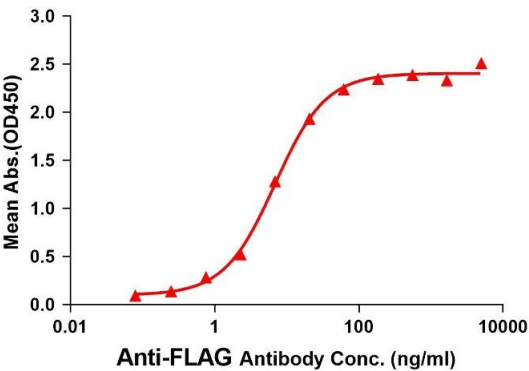
Expiry Date: 12 months



SDS-PAGE

Image 1. Human MDR-1-Nanodisc, Flag Tag on SDS-PAGE

ELISA assay to evaluate MDR-1-Nanodisc  
0.2µg Human MDR-1-Nanodisc per well



ELISA

Image 2. Elisa plates were pre-coated with Flag Tag MDR-1-Nanodisc (0.2 µg/per well). Serial diluted anti-Flag monoclonal antibody solutions were added, washed, and incubated with secondary antibody before Elisa reading. From above data, the EC50 for anti-Flag monoclonal antibody binding with MDR-1-Nanodisc is 6.883 ng/mL.