Biotin Conjugated Anti-Human Mesothelin Antibody [PSH0-57] - Detector

HA723289B

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det), ELISA
Molecular Wt:	Predicted band size: 69 kDa
Clone number:	PSH0-57

Description: Mesothelin, also known as MSLN, is a protein that in humans is encoded by the MSLN gene. Mesothelin is a 40 kDa protein that is expressed in mesothelial cells. The protein was first identified by its reactivity with monoclonal antibody K1. Subsequent cloning studies showed that the mesothelin gene encodes a precursor protein that is processed to yield mesothelin which is attached to the cell membrane by a glycophosphatidylinositol linkage and a 31-kDa shed fragment named megakaryocyte-potentiating factor (MPF). Although it has been proposed that mesothelin may be involved in cell adhesion, its biological function is not known. A knockout mouse line that lacks mesothelin reproduces and develops normally. Mesothelin is over expressed in several human tumors, including mesothelioma, ovarian cancer, pancreatic adenocarcinoma, lung adenocarcinoma, and cholangiocarcinoma. Mesothelin binds MUC16 (also known as CA125), indicating that the interaction of mesothelin and MUC16 may contribute to the implantation and peritoneal spread of tumors by cell adhesion. The region (residues 296-359) consisting of 64 amino acids at the N-terminus of cell surface mesothelin has been identified as the functional binding domain (named IAB) for MUC16/CA125, suggesting the mechanism of mesothelin acting as a MUC16/CA125 functional partner in cancer development.

Conjugate:	Biotin-conjugated
Immunogen:	Synthetic peptide within human Mesothelin aa 531-580 / 622 (Q13421-3).
Positive control:	Recombinant Human Mesothelin protein (HA210521).
Subcellular location:	Cell membrane, Golgi apparatus, Secreted.
Database links:	SwissProt: Q13421 Human

Recommended Dilutions:

ELISA(Det)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH01-26] to Human Mesothelin antibody (Capture) (HA723287) and Recombinant Human Mesothelin protein (HA210521) as the standard. The reference range value is 156.3-20,000 pg/ml.
ELISA	Use at an assay dependent concentration.

Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% ProClin300.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

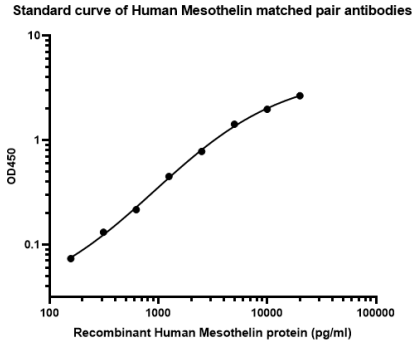

Fig1: Sandwich ELISA analysis of Human Mesothelin matched pair antibodies

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723287) diluted in carbonate/bicarbonate buffer, at a concentration of 5ug/ml overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human Mesothelin protein (HA210521) starting from 20000 pg/ml to 0 pg/ml and detect antibody (HA723289B, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

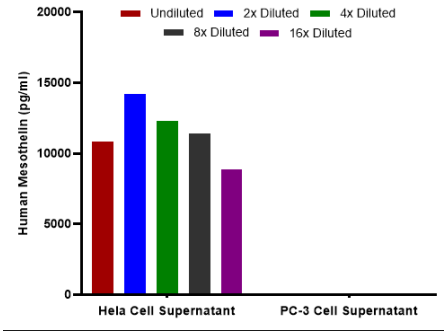

Fig2: Interpolated concentrations of native Mesothelin in human cell culture supernatant samples.

Interpolated concentration of native Mesothelin was measured in duplicate at different sample concentrations and interpolated from the Mesothelin standard curves. Undiluted samples were 100% cell supernatant. The mean Mesothelin concentration was determined to be 11,523 pg/mL in neat Hela cell supernanant. There was no detectable signal in PC-3 cell supernatant.

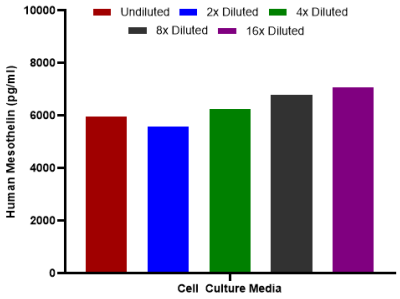

Fig3: Interpolated concentrations of spiked Mesothelin in cell culture media samples.

The concentrations of Mesothelin were measured in duplicates, interpolated from the Mesothelin standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 50%.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Klampatsa A et al. Mesothelin-targeted CAR-T cell therapy for solid tumors. Expert Opin Biol Ther. 2021 Apr
2. Faust JR et al. Mesothelin: An Immunotherapeutic Target beyond Solid Tumors. Cancers (Basel). 2022 Mar