Anti-Mesothelin Antibody [PSH0-57] - BSA and Azide free

HA750634

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IHC-P, IF-Tissue
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.

Immunogen:	Synthetic peptide within human Mesothelin aa 531-580 / 622 (Q13421-3).
Positive control:	HeLa cell lysate, SK-OV-3 cell lysate, OVCAR-3 cell lysate, SiHa cell lysate, NCI-H226 cell lysate, PC-3M cell lysate, human mesothelioma tissue, human ovarian cancer tissue, human tonsil tissue.
Subcellular location:	Cell membrane, Golgi apparatus, Secreted.
Database links:	SwissProt: Q13421 Human
Recommended Dilutions:	
WB	1:1,000
IHC-P	1:500-1:2,000
IF-Tissue	1:100
Storage Buffer:	1*PBS (pH7.4).
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

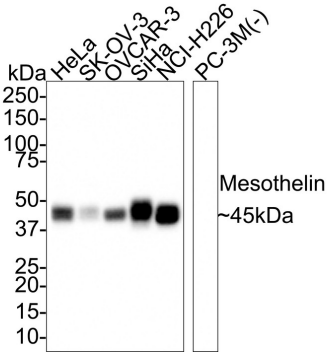

Fig1: Western blot analysis of Mesothelin on different lysates with Rabbit anti-Mesothelin antibody (HA750634) at 1/1,000 dilution.

Lane 1: HeLa cell lysate
Lane 2: SK-OV-3 cell lysate
Lane 3: OVCAR-3 cell lysate
Lane 4: SiHa cell lysate
Lane 5: NCI-H226 cell lysate
Lane 6: PC-3M cell lysate (negative)

Lysates/proteins at 20 µg/Lane.

Predicted band size: 69 kDa
Observed band size: 45 kDa

Exposure time: 7 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750634) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

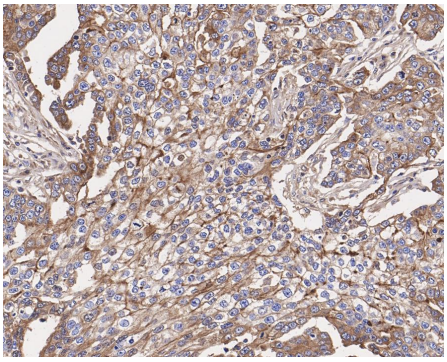

Fig2: Immunohistochemical analysis of paraffin-embedded human mesothelioma tissue with Rabbit anti-Mesothelin antibody (HA750634) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750634) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

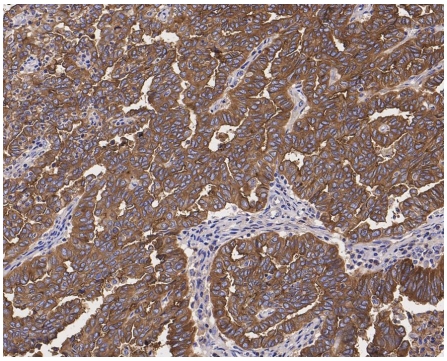

Fig3: Immunohistochemical analysis of paraffin-embedded human ovarian cancer tissue with Rabbit anti-Mesothelin antibody (HA750634) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750634) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

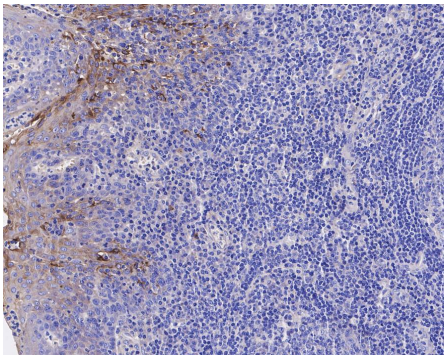

Fig4: Immunohistochemical analysis of paraffin-embedded human tonsil tissue with Rabbit anti-Mesothelin antibody (HA750634) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750634) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

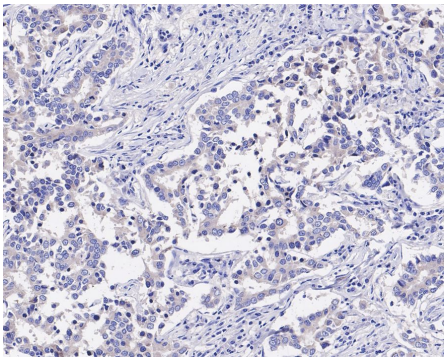

Fig5: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue (negative) with Rabbit anti-Mesothelin antibody (HA750634) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750634) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

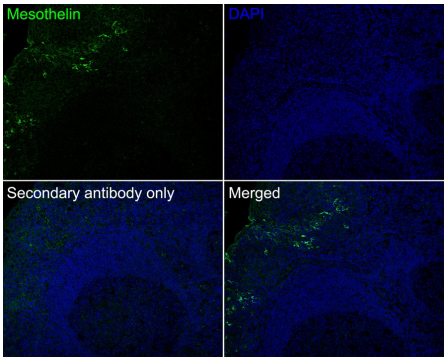

Fig6: Immunofluorescence analysis of paraffin-embedded human tonsil tissue labeling Mesothelin with Rabbit anti-Mesothelin antibody (HA750634) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA750634, green) at 1/100 dilution overnight at 4 ℃, washed with PBS.

Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

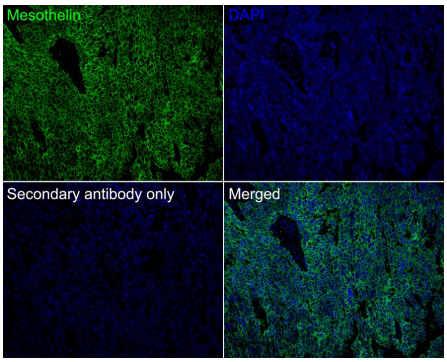

Fig7: Immunofluorescence analysis of paraffin-embedded human ovarian cancer tissue labeling Mesothelin with Rabbit anti-Mesothelin antibody (HA750634) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA750634, green) at 1/100 dilution overnight at 4 ℃, washed with PBS.

Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

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