MUC1 Antibody for IHC / Epithelial Membrane Antigen Immunohistochemistry Antibody [clone MSVA-672R] (V5950)

Catalog No.	Formulation	Size
V5950-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5950-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-672R
UniProt	P15941
Localization	Apical cell membrane, Cell membrane, Cytoplasm, Nucleus, Secreted
Applications	Immunohistochemistry (FFPE): 1:75-1:150
Limitations	This MUC1 Antibody for IHC / Epithelial Membrane Antigen Immunohistochemistry Antibody is available for research use only.



MUC1 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Mucin 1 MUC1, also known as Epithelial membrane antigen, in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal MUC1 antibody clone MSVA-672R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates prominent membranous and cytoplasmic localization in glandular and ductal epithelial tissues, consistent with luminal surface expression, while non-epithelial tissues including stromal and mesenchymal compartments show minimal to absent staining. Within tumor tissue microarrays, strong and often diffuse staining is observed in epithelial-derived malignancies, supporting identification of carcinoma cells and altered epithelial polarity. Evaluation across large TMA panels enables direct comparison of MUC1 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported MUC1 expression profiles in publicly available datasets including the Human Protein Atlas.

Description

Mucin 1 (MUC1), also known as Epithelial Membrane Antigen (EMA), is a transmembrane glycoprotein expressed on the apical surface of epithelial cells, where it plays key roles in barrier formation, cell signaling, and epithelial polarity. MUC1 Antibody for IHC is optimized for detection of epithelial and tumor-associated expression in formalin-fixed, paraffin-embedded tissues, enabling high-contrast visualization of epithelial structures and carcinoma-associated staining patterns in histological sections.

MUC1 antibody, also referred to as EMA antibody or MUC-1 antibody, is widely used in immunohistochemistry as a robust epithelial lineage marker with characteristic membranous and cytoplasmic staining. In normal tissues, MUC1 expression is predominantly localized to glandular and ductal epithelia, including breast, lung, gastrointestinal mucosa, pancreas, prostate, endometrium, and urothelium. In IHC staining, this polarized distribution frequently highlights luminal surfaces and apical membranes, providing clear delineation of epithelial architecture, while non-epithelial tissues such as muscle, connective tissue, and lymphoid compartments show minimal staining.

Clone MSVA-672R is a recombinant rabbit monoclonal antibody developed for high-affinity and reproducible detection of MUC1 in FFPE samples. This clone produces strong membranous and cytoplasmic staining with low non-specific background under standard antigen retrieval conditions, enabling clear identification of epithelial cells and tumor structures. In Tissue Microarray (TMA) analysis, MUC1 Antibody for IHC demonstrates highly consistent staining across large panels of normal and cancer tissues, allowing side-by-side comparison of epithelial marker expression across hundreds of tissue cores within a single experiment.

In normal tissue microarrays, MUC1 staining is prominently observed in glandular and ductal epithelial compartments, where strong HRP-DAB brown signal outlines luminal surfaces and epithelial cell borders. This pattern provides clear visualization of tissue organization and epithelial differentiation across multiple organ systems. Non-epithelial tissues, including stromal and mesenchymal compartments, are largely negative, reinforcing the specificity of MUC1 as an epithelial marker in immunohistochemistry.

In cancer tissue microarrays, MUC1 Antibody for IHC reveals strong and often diffuse membranous and cytoplasmic staining in a wide range of epithelial malignancies, including breast carcinoma, lung adenocarcinoma, colorectal adenocarcinoma, pancreatic carcinoma, ovarian carcinoma, and urothelial carcinoma. Tumor cells frequently exhibit increased staining intensity and loss of apical polarization compared to normal tissues, reflecting altered MUC1 distribution during malignant transformation. This staining pattern is particularly valuable for identifying epithelial-derived tumor cells, assessing tumor differentiation, and distinguishing carcinoma cells from surrounding stromal components in complex tissue environments.

The robust and reproducible performance of clone MSVA-672R in TMA-based immunohistochemistry supports its application in cancer research, tumor profiling, and biomarker validation studies. MUC1 Antibody for IHC enables reliable detection of epithelial markers in FFPE tissues and is well suited for high-throughput tissue microarray analysis, comparative pathology, and evaluation of epithelial tumor biology across diverse tissue types.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the MUC1 Antibody for IHC / Epithelial Membrane Antigen Immunohistochemistry Antibody should be determined by the researcher.

2. This Epithelial Membrane Antigen/MUC1 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

Recombinant human Mucin 1 protein was used as the immunogen for the recombinant Epithelial Membrane Antigen/MUC1 antibody.

Storage

MUC1/Epithelial Membrane Antigen antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

MUC1 IHC antibody, EMA immunohistochemistry antibody, Epithelial membrane antigen antibody, MUC-1 antibody, MUC1 TMA antibody

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