Epithelial Membrane Antigen Antibody / MUC1 [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 recombinant Epithelial Membrane Antigen/MUC1 antibody is available for research use only.

Immunohistochemistry analysis of Epithelial Membrane Antigen / MUC1 antibody (clone MSVA-672R) in human tissue microarrays. Recombinant Epithelial Membrane Antigen / MUC1 antibody (clone MSVA-672R) was evaluated on FFPE human normal and cancer tissue microarrays, demonstrating membranous and cytoplasmic brown chromogenic staining in epithelial tissues and epithelial-derived tumors consistent with known MUC1 expression patterns, while non-epithelial tissues show minimal staining. The staining distribution observed across normal and malignant specimens is consistent with publicly available expression data.

Description

Epithelial Membrane Antigen antibody targets Mucin 1, a transmembrane glycoprotein encoded by the human MUC1 gene and a prominent member of the membrane-bound mucin family. Epithelial membrane antigen, commonly abbreviated as EMA in diagnostic pathology, is the same protein widely known as MUC1 in molecular biology literature. Because of this dual nomenclature, researchers frequently search for Epithelial Membrane Antigen antibody, EMA antibody, or MUC1 antibody when evaluating epithelial differentiation and carcinoma biology. EMA antibody is particularly well established in immunohistochemistry panels used for tumor classification and epithelial marker analysis.

MUC1 is primarily localized to the apical surface of glandular and ductal epithelial cells, where it contributes to mucosal barrier protection and intracellular signaling. The extracellular domain contains tandem repeat sequences that are heavily O-glycosylated, forming a protective mucin layer. In normal tissues, expression is polarized to the apical membrane. In malignant transformation, however, MUC1 commonly becomes overexpressed, loses apical restriction, and exhibits altered glycosylation patterns that expose peptide epitopes. Epithelial Membrane Antigen antibody and EMA antibody are therefore widely applied in the evaluation of epithelial tumors, including breast, ovarian, pancreatic, lung, gastric, and colorectal carcinomas.

The cytoplasmic tail of Mucin 1 participates in intracellular signaling through interactions with beta-catenin and additional regulatory proteins, influencing proliferation, survival, and metastatic behavior. Elevated MUC1 expression has been associated with tumor aggressiveness and poor prognosis in multiple malignancies. EMA antibody is frequently used in diagnostic and research settings to distinguish epithelial-derived neoplasms from mesenchymal or lymphoid tumors.

Structurally, Mucin 1 consists of an extracellular mucin domain with variable number tandem repeats, a transmembrane region, and a short cytoplasmic tail involved in signal transduction. An Epithelial Membrane Antigen antibody such as clone MSVA-672R is suitable for detecting MUC1 expression in epithelial tissues and tumor biology research applications.

Application Notes

1. Optimal dilution of the recombinant Epithelial Membrane Antigen/MUC1 antibody should be determined by the researcher.

2. This recombinant 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 MUC1 protein was used as the immunogen for the recombinant Epithelial Membrane Antigen/MUC1 antibody.

Storage

MUC1/Mucin 1 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.