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MUC1 / EMA / CD227 (Epithelial Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone HMPV]
Catalog # AH11857

Product Information

Application	IF, FC, IHC-P
Primary Accession	P15941
Other Accession	4582, 89603
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	HMPV
Calculated MW	122102

Additional Information

Gene ID	4582
Other Names	Mucin-1, MUC-1, Breast carcinoma-associated antigen DF3, Cancer antigen 15-3, CA 15-3, Carcinoma-associated mucin, Episialin, H23AG, Krebs von den Lungen-6, KL-6, PEMT, Peanut-reactive urinary mucin, PUM, Polymorphic epithelial mucin, PEM, Tumor-associated epithelial membrane antigen, EMA, Tumor-associated mucin, CD227, Mucin-1 subunit alpha, MUC1-NT, MUC1-alpha, Mucin-1 subunit beta, MUC1-beta, MUC1-CT, MUC1, PUM
Application Note	IF~~1:50~200 FC~~1:10~50 IHC-P~~N/A
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	MUC1 / EMA / CD227 (Epithelial Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MUC1
Synonyms	PUM
Function	The alpha subunit has cell adhesive properties. Can act both as an adhesion and an anti-adhesion protein. May provide a protective layer on epithelial cells against bacterial and enzyme attack.
Cellular Location	Apical cell membrane; Single-pass type I membrane protein. Note=Exclusively located in the apical domain of the plasma membrane of highly polarized

	epithelial cells After endocytosis, internalized and recycled to the cell membrane Located to microvilli and to the tips of long filopodial protusions [Isoform Y]: Secreted. [Mucin-1 subunit beta]: Cell membrane. Cytoplasm. Nucleus. Note=On EGF and PDGFRB stimulation, transported to the nucleus through interaction with CTNNB1, a process which is stimulated by phosphorylation. On HRG stimulation, colocalizes with JUP/gamma-catenin at the nucleus
Tissue Location	Expressed on the apical surface of epithelial cells, especially of airway passages, breast and uterus. Also expressed in activated and unactivated T-cells. Overexpressed in epithelial tumors, such as breast or ovarian cancer and also in non-epithelial tumor cells. Isoform Y is expressed in tumor cells only

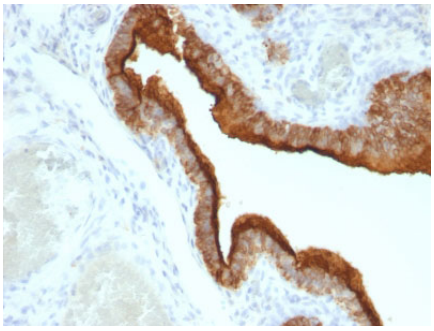
Background

This MAb recognizes full-length MUC1 in a glycosylation-independent manner and can bind to the fully glycosylated protein. The dominant epitope of this MAb is APDTR in the VNTR region. It reacts with the core peptide of the MUC1 protein, which is a member of a family of mucin glycoproteins that are characterized by high carbohydrate content, O-linked oligosaccharides, high molecular weight (>200kDa) and an amino acid composition rich in serine, threonine, proline and glycine. The core protein contains a domain of 20 amino-acid tandem repeats that functions as multiple epitopes for the MAb. Incomplete glycosylation of some tumor-associated mucins may lead to variable unmasking of the multiple peptide epitopes leading to the observed differences in staining intensity between normal and malignant tissues. This MAb reacts with both normal and malignant epithelia of various tissues including breast and colon.

References

Xing PX, Prenzoska J, McKenzie IF. Epitope mapping of anti-breast and anti-ovarian mucin monoclonal antibodies. Mol Immunol. 1992 May;29(5):641-50. | Uwe Karsten, Catherine Diotel, Gunther Klich, Hans Paulsen, Steffen Goletz, Stefan Muller, and Franz-Georg Hanisch. Enhanced Binding of Antibodies to the DTR Motif of MUC1 Tandem Repeat Peptide Is Mediated by Site-specific Glycosylation1. Cancer Research 58, 2541-2549, June 15. 1998 | Devine PL, Birrell GW, Whitehead RH, Harada H, Xing PX, McKenzie IF. Expression of MUC1 and MUC2 mucins by human tumor cell lines. Tumour Biol. 1992; 13(5):268-277

Images



Formalin-fixed, paraffin-embedded human Ovarian Carcinoma stained with EMA Monoclonal Antibody (HMPV).