10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MUC1 Antibody

Catalog # ASC11689

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P15941
Other Accession	NP_001191215, 324120958
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	122102
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	MUC1 antibody can be used for detection of MUC1 by Western blot at 1 - 2 □g/ml.

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
Target/Specificity	MUC1; MUC1 antibody is human and mouse reactive. Multiple isoforms of MUC1 are known to exist. MUC1 often migrates at a higher molecular weight in SDS-PAGE due to high levels of post-translational modification.
Reconstitution & Storage	MUC1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	MUC1 Antibody 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

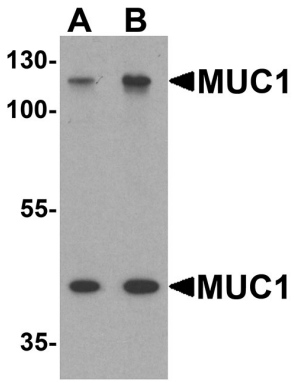
Background

Mucin 1 (MUC1) is membrane-bound protein member of the mucin family. Mucins are O-glycosylated proteins that play an essential role in forming protective mucous barriers on epithelial surfaces and also play a role in intracellular signaling (1). MUC1 is expressed on the apical surface of epithelial cells that line the mucosal surfaces of many different tissues including lung, breast stomach and pancreas. MUC1 is proteolytically cleaved into alpha and beta subunits that form a heterodimeric complex. The N-terminal alpha subunit functions in cell-adhesion and the C-terminal beta subunit is involved in cell signaling. Overexpression, aberrant intracellular localization, and changes in glycosylation of this protein have been associated with carcinomas (1).

References

Singh R and Bandyopadhyay D. MUC1: a target molecule for cancer therapy. Cancer Biol. Ther. 2007; 6:481-6.

Images



Western blot analysis of MUC1 in HeLa cell lysate with MUC1 antibody at (A) 1 and (B) 2 µg/ml.