

**Anti-MUC4 (MOUSE) Antibody**  
**MUC4 Antibody**  
**Catalog # ASR4248****Specification**

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**Anti-MUC4 (MOUSE) Antibody - Product Information**

Host	Mouse
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Monoclonal
Application	WB, E, I, LCI
Application Note	Anti-MUC4 Antibody was testing in ELISA, IHC, and Western Blot. Antibodies shows no cross reactivity to non-mucilated proteins. Positive control used in WB were HPAC, HPAF-II, and Capan-2 cell lines.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This protein A purified antibody produced by repeated immunizations with a peptide corresponding to an internal portion of human Mucin-4.
Preservative	0.01% (w/v) Sodium Azide

**Anti-MUC4 (MOUSE) Antibody - Additional Information****Gene ID** 4585**Other Names**  
4585**Purity**

This purified antibody is directed against human MUC4 protein. The product was purified from tissue culture supernate by protein A chromatography. A BLAST analysis was used to suggest cross reactivity with MUC4 from human based on 100% sequence homology with the immunogen. Reactivity with MUC4 from other sources is not known.

**Storage Condition**

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

**Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

**Anti-MUC4 (MOUSE) Antibody - Protein Information**

**Name** MUC4**Function**

Membrane-bound mucin, a family of highly glycosylated proteins that constitute the major component of the mucus, the slimy and viscous secretion covering epithelial surfaces (PubMed: [10880978](http://www.uniprot.org/citations/10880978)). These glycoproteins play important roles in the protection of the epithelium and are implicated in epithelial renewal and differentiation (PubMed: [10880978](http://www.uniprot.org/citations/10880978)). Regulates cellular behavior through both anti-adhesive effects on cell-cell and cell-extracellular matrix interactions and its ability to act as an intramembrane ligand for ERBB2. Plays an important role in proliferation and differentiation of epithelial cells by inducing specific phosphorylation of ERBB2. In polarized epithelial cells, segregates ERBB2 and other ERBB receptors and prevents ERBB2 from acting as a coreceptor. The interaction with ERBB2 leads to enhanced expression of CDKN1B. The formation of a MUC4- ERBB2-ERBB3-NRG1 complex leads to down-regulation of CDKN1B, resulting in repression of apoptosis and stimulation of proliferation. Its ability to promote tumor growth may be mainly due to repression of apoptosis as opposed to proliferation.

**Cellular Location**

[Mucin-4 beta chain]: Cell membrane; Single-pass membrane protein. Note=Isoforms lacking the Cys-rich region, EGF-like domains and transmembrane region are secreted Secretion occurs by splicing or proteolytic processing [Isoform 3]: Cell membrane; Single-pass membrane protein [Isoform 15]: Secreted

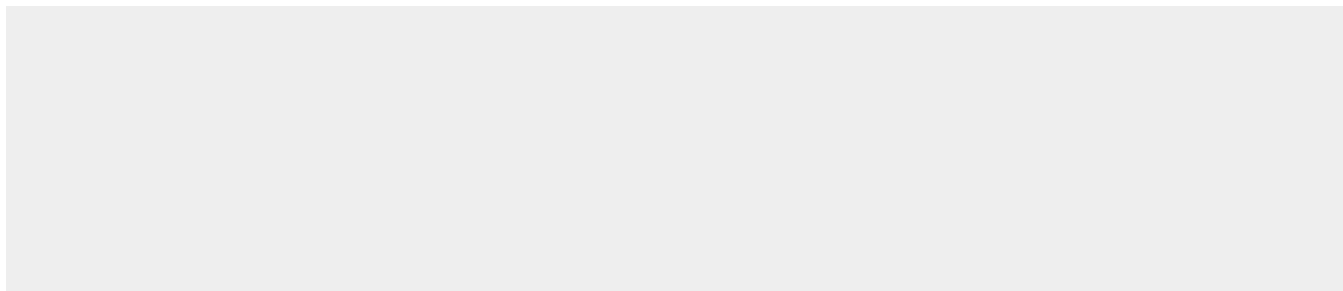
**Tissue Location**

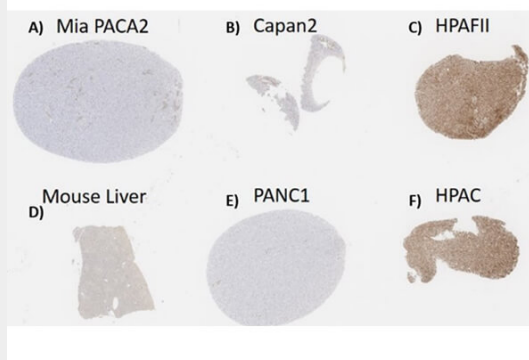
Expressed in the thymus, thyroid, lung, trachea, esophagus, stomach, small intestine, colon, testis, prostate, ovary, uterus, placenta, and mammary and salivary glands. Expressed in carcinomas arising from some of these epithelia, such as lung cancers, squamous cell carcinomas of the upper aerodigestive tract, mammary carcinomas, biliary tract, colon, and cervix cancers. Minimally or not expressed in the normal pancreas or chronic pancreatitis, but is highly expressed in pancreatic tumors and pancreatic tumor cell lines

**Anti-MUC4 (MOUSE) Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Anti-MUC4 (MOUSE) Antibody - Images**



**Immunohistochemistry of Mouse Anti-MUC4 Antibody.** Tissue/Cell: A) hu Mia PACA2 [-]. B) hu Capan2 pancreatic ductal adenocarcinoma cell line [+]. C) hu HPAFII cell pellet [+]. D) Control mouse liver [-]. E) hu Control PANC1 cell pellet [-]. F) hu HPAC cell pellet [+]. Tissues: FFPE containing normal and malignant pancreatic tissues. Cell pellets: Appr. 10 million cells were collected from flasks without enzymatic treatment and centrifuged; thrombin and Fibrinogen was added. The resulting pellet of clotted cells was collected. Fixative: 10% neutral buffered formalin at RT. Antigen Retrieval: HIER citrate buffer for 20 min. Primary Antibody: Anti-MUC4 Antibody at 1:1000 in A, B, C, F. Isotype control reagent used in negative control D, E. Secondary Antibody: Anti-Mouse IgG. Counter Stain: Bond Polymer Refine Detection Kit. Analysis Results: No staining was observed for control liver and PANC1 (MUC4-) cell pellets while HPAFII and HPAC pellets that are known to express large amounts of MUC4 were strongly and diffusely positive. Some non-specific, acellular staining is seen within Mia PACA2 (MUC4-) cells.

### Anti-MUC4 (MOUSE) Antibody - Background

This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI). MUC4 (Mucin 4, Cell Surface Associated) is a Protein Coding gene. This gene encodes an integral membrane glycoprotein found on the cell surface, although secreted isoforms may exist. At least two dozen transcript variants of this gene have been found, although for many of them the full-length transcript has not been determined or they are found only in tumor tissues. Highly glycosylated proteins called mucins, are the major constituents of mucus; the viscous secretion that covers epithelial surfaces such as those in the trachea, colon, and cervix. MUC4's ability to promote tumor growth may be mainly due to repression of apoptosis as opposed to proliferation. MUC4 seems to alter cellular behavior through both anti-adhesive effects on cell-cell and cell-extracellular matrix interactions and in its ability to act as an intramembrane ligand for ERBB2. These glycoproteins play an important role in cell proliferation and differentiation of epithelial cells by inducing specific phosphorylation of ERBB2. The MUC4-ERBB2 complex causes site-specific phosphorylation of the ERBB2 Tyr-1248. In polarized epithelial cells segregates ERBB2 and other ERBB receptors and prevents ERBB2 from acting as a co-receptor. The interaction with ERBB2 leads to enhanced expression of CDKN1B. The formation of a MUC4-ERBB2-ERBB3-NRG1 complex leads to down-regulation of CDKN1B, resulting in repression of apoptosis and stimulation of proliferation. May play a role in tumor progression. MUC4 is associated with diseases such as bile duct cancer, keratitis, adenosquamous carcinoma, and pancreatic adenocarcinomas. Anti-MUC4 Antibody is useful for researchers interested in digestion, cancer research, and extracellular matrix Antibodies.