

**MUC2 Antibody**  
**Rabbit mAb**  
**Catalog # AP91191****Specification****MUC2 Antibody - Product Information**

Application	WB, IHC, FC, ICC, IP
Primary Accession	<a href="#">Q02817</a>
Reactivity	Rat
Clonality	Monoclonal
<b>Other Names</b>	
Intestinal mucin 2; MLP; Muc2; Mucin 2 intestinal/tracheal; Mucin2; SMUC;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	540300 Da

**MUC2 Antibody - Additional Information**

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human MUC2
Description	Coats the epithelia of the intestines, airways, and other mucus membrane-containing organs. Thought to provide a protective, lubricating barrier against particles and infectious agents at mucosal surfaces. Major constituent of both the inner and outer mucus layers of the colon and may play a role in excluding bacteria from the inner mucus layer.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

**MUC2 Antibody - Protein Information**

**Name** MUC2 {ECO:0000303|PubMed:8300571, ECO:0000312|HGNC:HGNC:7512}

**Function**

Coats the epithelia of the intestines and other mucus membrane-containing organs to provide a protective, lubricating barrier against particles and infectious agents at mucosal surfaces (PubMed:<a href="http://www.uniprot.org/citations/17058067" target="\_blank">17058067</a>, PubMed:<a href="http://www.uniprot.org/citations/19432394" target="\_blank">19432394</a>, PubMed:<a href="http://www.uniprot.org/citations/33031746" target="\_blank">33031746</a>). Major constituent of the colon mucus, which is mainly formed by large polymeric networks of MUC2 secreted by goblet cells that cover the exposed surfaces of intestine (PubMed:<a

href="http://www.uniprot.org/citations/19432394" target="\_blank">19432394</a>, PubMed:<a href="http://www.uniprot.org/citations/33031746" target="\_blank">33031746</a>). MUC2 networks form hydrogels that guard the underlying epithelium from pathogens and other hazardous matter entering from the outside world, while permitting nutrient absorption and gas exchange (PubMed:<a href="http://www.uniprot.org/citations/33031746" target="\_blank">33031746</a>, PubMed:<a href="http://www.uniprot.org/citations/36206754" target="\_blank">36206754</a>). Acts as a divalent copper chaperone that protects intestinal cells from copper toxicity and facilitates nutritional copper uptake into cells (PubMed:<a href="http://www.uniprot.org/citations/36206754" target="\_blank">36206754</a>). Binds both Cu(2+) and its reduced form, Cu(1+), at two juxtaposed binding sites: Cu(2+), once reduced to Cu(1+) by vitamin C (ascorbate) or other dietary antioxidants, transits to the other binding site (PubMed:<a href="http://www.uniprot.org/citations/36206754" target="\_blank">36206754</a>). MUC2-bound Cu(1+) is protected from oxidation in aerobic environments, and can be released for nutritional delivery to cells (PubMed:<a href="http://www.uniprot.org/citations/36206754" target="\_blank">36206754</a>). Mucin gels store antimicrobial molecules that participate in innate immunity (PubMed:<a href="http://www.uniprot.org/citations/33031746" target="\_blank">33031746</a>). Mucin glycoproteins also house and feed the microbiome, lubricate tissue surfaces, and may facilitate the removal of contaminants and waste products from the body (PubMed:<a href="http://www.uniprot.org/citations/33031746" target="\_blank">33031746</a>). Goblet cells synthesize two forms of MUC2 mucin that differ in branched chain O-glycosylation and the site of production in the colon: a (1) 'thick' mucus that wraps the microbiota to form fecal pellets is produced in the proximal, ascending colon (By similarity). 'Thick' mucus transits along the descending colon and is lubricated by a (2) 'thin' MUC2 mucus produced in the distal colon which adheres to the 'thick' mucus (By similarity).

#### **Cellular Location**

Secreted. Note=In the intestine, secreted into the inner and outer mucus layers (By similarity). Before secretion, mucin polymers are stored in dedicated secretory vesicles (PubMed:33031746). {ECO:0000250|UniProtKB:Q80Z19, ECO:0000269|PubMed:33031746}

#### **Tissue Location**

Colon, small intestine, colonic tumors, bronchus, cervix and gall bladder.

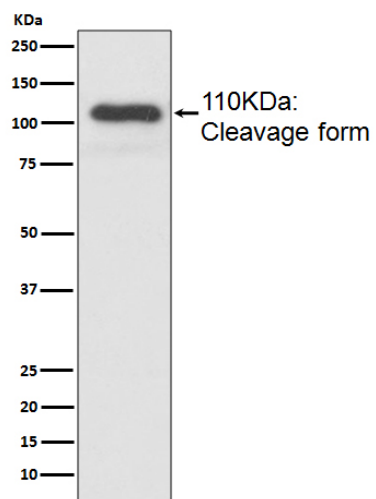
### **MUC2 Antibody - Protocols**

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](#)

### **MUC2 Antibody - Images**





Western blot analysis of MUC2 expression in Caco-2 cell lysate.