

Mucin 2 Rabbit mAb

Catalog # AP78998

Product Information

Application	WB, IHC-P, IF, FC, ICC, IP
Primary Accession	Q02817
Reactivity	Rat, Human
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human MUC2
Purification	Affinity Chromatography
Calculated MW	550850

Additional Information

Gene ID	4583
Other Names	MUC2
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IF~~1:50~200 FC~~1:10~50 ICC~~N/A IP~~N/A
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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: 17058067 , PubMed: 19432394 , PubMed: 33031746). 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: 19432394 , PubMed: 33031746). 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: 33031746 , PubMed: 36206754). Acts as a divalent copper chaperone that protects intestinal cells from copper toxicity and facilitates nutritional copper uptake into cells (PubMed: 36206754). 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:[36206754](#)). MUC2-bound Cu(1+) is protected from oxidation in aerobic environments, and can be released for nutritional delivery to cells (PubMed:[36206754](#)). Mucin gels store antimicrobial molecules that participate in innate immunity (PubMed:[33031746](#)). 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:[33031746](#)). 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).

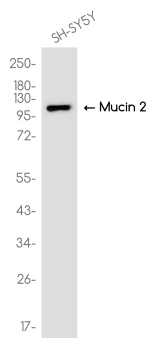
Cellular Location

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.

Images



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