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

Anti-MUC2 Rabbit Monoclonal Antibody

Catalog # ABO13534

Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	Q02817
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-MUC2 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

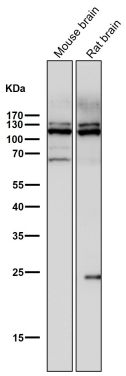
Additional Information

Gene ID	4583
Other Names	Mucin-2, MUC-2, Intestinal mucin-2, MUC2 {ECO:0000303|PubMed:8300571, ECO:0000312|HGNC:HGNC:7512}
Calculated MW	550850
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:50 FC 1:50
Subcellular Localization	Secreted. In the intestine, secreted into the inner and outer mucus layers..
Tissue Specificity	Colon, small intestine, colonic tumors, bronchus, cervix and gall bladder.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: AAEO-13
Immunogen	A synthesized peptide derived from human MUC2
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

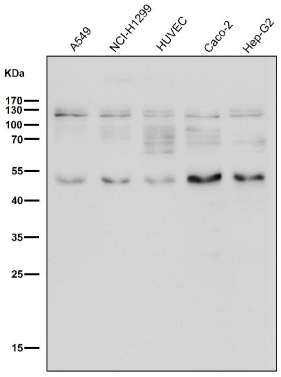
Name	MUC2 {ECO:0000303|PubMed:8300571, ECO:0000312|HGNC:HGNC:7512}
Function	Coats the epithelia of the intestines and other mucus membrane-containing organs to provide a protective, lubricating barrier against particles and infectious agents at mucosal surfaces (PubMed:17058067, PubMed:19432394, PubMed:33031746). 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 unptake 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.

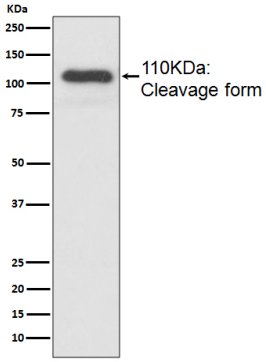
Images



All lanes use the Antibody at 1:2K dilution for 1 hour at room temperature.

All lanes use the Antibody at 1:2K dilution for 1 hour at room temperature.





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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.