

**Anti-MUC1 Picoband Antibody**  
**Catalog # ABO11844****Specification**

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**Anti-MUC1 Picoband Antibody - Product Information**

Application	IHC
Primary Accession	<a href="#">P35354</a>
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Mucin-1(MUC1) detection. Tested with IHC-P in Human.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-MUC1 Picoband Antibody - Additional Information**

**Gene ID** 5743

**Other Names**

Prostaglandin G/H synthase 2, 1.14.99.1, Cyclooxygenase-2, COX-2, PHS II, Prostaglandin H2 synthase 2, PGH synthase 2, PGHS-2, Prostaglandin-endoperoxide synthase 2, PTGS2, COX2

**Calculated MW**

68996 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat<br>

**Subcellular Localization**

Microsome membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein.

**Tissue Specificity**

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 7 is expressed in tumor cells only.

**Protein Name**

Mucin-1

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

**Immunogen**

E.coli-derived human MUC1 recombinant protein (Position: R945-G1097). Human MUC1 shares

56% amino acid (aa) sequence identity with mouse MUC1.

#### Purification

Immunogen affinity purified.

#### Cross Reactivity

No cross reactivity with other proteins

#### Storage

**At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

#### Sequence Similarities

Contains 1 SEA domain.

### Anti-MUC1 Picoband Antibody - Protein Information

**Name** PTGS2 ([HGNC:9605](#))

#### Function

Dual cyclooxygenase and peroxidase in the biosynthesis pathway of prostanoids, a class of C20 oxylipins mainly derived from arachidonate ((5Z,8Z,11Z,14Z)-eicosatetraenoate, AA, C20:4(n-6)), with a particular role in the inflammatory response (PubMed:[7947975](http://www.uniprot.org/citations/7947975), PubMed:[7592599](http://www.uniprot.org/citations/7592599), PubMed:[9261177](http://www.uniprot.org/citations/9261177), PubMed:[16373578](http://www.uniprot.org/citations/16373578), PubMed:[22942274](http://www.uniprot.org/citations/22942274), PubMed:[26859324](http://www.uniprot.org/citations/26859324), PubMed:[27226593](http://www.uniprot.org/citations/27226593), PubMed:[11939906](http://www.uniprot.org/citations/11939906), PubMed:[19540099](http://www.uniprot.org/citations/19540099)). The cyclooxygenase activity oxygenates AA to the hydroperoxy endoperoxide prostaglandin G2 (PGG2), and the peroxidase activity reduces PGG2 to the hydroxy endoperoxide prostaglandin H2 (PGH2), the precursor of all 2-series prostaglandins and thromboxanes (PubMed:[7947975](http://www.uniprot.org/citations/7947975), PubMed:[7592599](http://www.uniprot.org/citations/7592599), PubMed:[9261177](http://www.uniprot.org/citations/9261177), PubMed:[16373578](http://www.uniprot.org/citations/16373578), PubMed:[22942274](http://www.uniprot.org/citations/22942274), PubMed:[26859324](http://www.uniprot.org/citations/26859324), PubMed:[27226593](http://www.uniprot.org/citations/27226593)). This complex transformation is initiated by abstraction of hydrogen at carbon 13 (with S-stereochemistry), followed by insertion of molecular O2 to form the endoperoxide bridge between carbon 9 and 11 that defines prostaglandins. The insertion of a second molecule of O2 (bis-oxygenase activity) yields a hydroperoxy group in PGG2 that is then reduced to PGH2 by two electrons (PubMed:[7947975](http://www.uniprot.org/citations/7947975), PubMed:[7592599](http://www.uniprot.org/citations/7592599), PubMed:[9261177](http://www.uniprot.org/citations/9261177), PubMed:[16373578](http://www.uniprot.org/citations/16373578), PubMed:[22942274](http://www.uniprot.org/citations/22942274), PubMed:[26859324](http://www.uniprot.org/citations/26859324), PubMed:[27226593](http://www.uniprot.org/citations/27226593)). Similarly catalyzes successive cyclooxygenation and peroxidation of dihomo-gamma-linoleate (DGLA,

C20:3(n-6)) and eicosapentaenoate (EPA, C20:5(n-3)) to corresponding PGH1 and PGH3, the precursors of 1- and 3- series prostaglandins (PubMed:<a href="http://www.uniprot.org/citations/11939906" target="\_blank">11939906</a>, PubMed:<a href="http://www.uniprot.org/citations/19540099" target="\_blank">19540099</a>). In an alternative pathway of prostanoid biosynthesis, converts 2-arachidonoyl lysophospholipids to prostanoid lysophospholipids, which are then hydrolyzed by intracellular phospholipases to release free prostanoids (PubMed:<a href="http://www.uniprot.org/citations/27642067" target="\_blank">27642067</a>). Metabolizes 2-arachidonoyl glycerol yielding the glyceryl ester of PGH2, a process that can contribute to pain response (PubMed:<a href="http://www.uniprot.org/citations/22942274" target="\_blank">22942274</a>). Generates lipid mediators from n-3 and n-6 polyunsaturated fatty acids (PUFAs) via a lipoxygenase-type mechanism. Oxygenates PUFAs to hydroperoxy compounds and then reduces them to corresponding alcohols (PubMed:<a href="http://www.uniprot.org/citations/11034610" target="\_blank">11034610</a>, PubMed:<a href="http://www.uniprot.org/citations/11192938" target="\_blank">11192938</a>, PubMed:<a href="http://www.uniprot.org/citations/9048568" target="\_blank">9048568</a>, PubMed:<a href="http://www.uniprot.org/citations/9261177" target="\_blank">9261177</a>). Plays a role in the generation of resolution phase interaction products (resolvins) during both sterile and infectious inflammation (PubMed:<a href="http://www.uniprot.org/citations/12391014" target="\_blank">12391014</a>). Metabolizes docosahexaenoate (DHA, C22:6(n-3)) to 17R-HDHA, a precursor of the D- series resolvins (RvDs) (PubMed:<a href="http://www.uniprot.org/citations/12391014" target="\_blank">12391014</a>). As a component of the biosynthetic pathway of E-series resolvins (RvEs), converts eicosapentaenoate (EPA, C20:5(n-3)) primarily to 18S-HEPE that is further metabolized by ALOX5 and LTA4H to generate 18S-RvE1 and 18S- RvE2 (PubMed:<a href="http://www.uniprot.org/citations/21206090" target="\_blank">21206090</a>). In vascular endothelial cells, converts docosapentaenoate (DPA, C22:5(n-3)) to 13R-HDPA, a precursor for 13-series resolvins (RvTs) shown to activate macrophage phagocytosis during bacterial infection (PubMed:<a href="http://www.uniprot.org/citations/26236990" target="\_blank">26236990</a>). In activated leukocytes, contributes to oxygenation of hydroxyeicosatetraenoates (HETE) to diHETES (5,15-diHETE and 5,11-diHETE) (PubMed:<a href="http://www.uniprot.org/citations/22068350" target="\_blank">22068350</a>, PubMed:<a href="http://www.uniprot.org/citations/26282205" target="\_blank">26282205</a>). Can also use linoleate (LA, (9Z,12Z)- octadecadienoate, C18:2(n-6)) as substrate and produce hydroxyoctadecadienoates (HODEs) in a regio- and stereospecific manner, being (9R)-HODE ((9R)-hydroxy-(10E,12Z)-octadecadienoate) and (13S)- HODE ((13S)-hydroxy-(9Z,11E)-octadecadienoate) its major products (By similarity). During neuroinflammation, plays a role in neuronal secretion of specialized preresolving mediators (SPMs) 15R-lipoxin A4 that regulates phagocytic microglia (By similarity).

### Cellular Location

Microsome membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein. Nucleus inner membrane; Peripheral membrane protein. Nucleus outer membrane; Peripheral membrane protein. Note=Detected on the luminal side of the endoplasmic reticulum and nuclear envelope

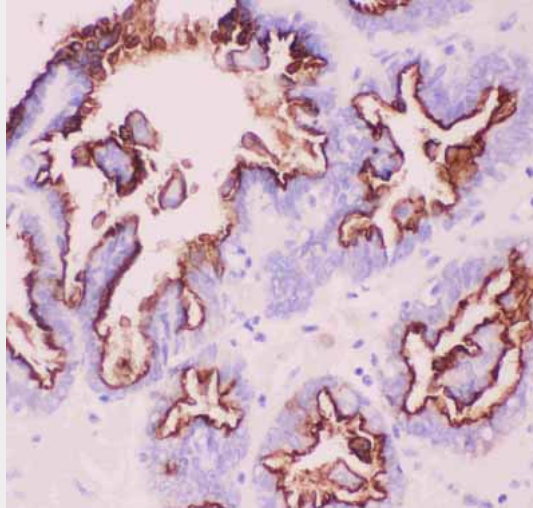
### Anti-MUC1 Picoband Antibody - Protocols

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-MUC1 Picoband Antibody - Images**



Anti-MUC1 Picoband antibody, ABO11844-1.JPGIHC(P): Human Ovary Cancer Tissue

#### **Anti-MUC1 Picoband Antibody - Background**

Mucin 1, cell surface associated (MUC1) or polymorphic epithelial mucin (PEM) is a mucin encoded by the MUC1 gene in humans. This gene encodes a membrane-bound protein that is a member of the mucin family. Mucins are O-glycosylated proteins that play an essential role in forming protective mucous barriers on epithelial surfaces. It is mapped to 1q22. Mucin 1 is a transmembrane mucin normally expressed on the apical borders of secretory epithelial cells. Overexpression of Mucin 1 is often associated with colon, breast, ovarian, lung and pancreatic cancers. The protein serves a protective function by binding to pathogens and also functions in a cell signaling capacity. Mucin 1 stimulated ESR1-mediated transcription and contributed to estradiol-mediated growth and survival of breast cancer cells. This gene also can suppress pulmonary innate immunity, and its antiinflammatory activity may play an important modulatory role during microbial infection.