

## Rabbit Anti-MUC1/AP Conjugated antibody

SL1497R-AP

<b>Product Name</b>	Anti-MUC1/AP
<b>Chinese Name</b>	碱性磷酸酶（AP）标记的粘蛋白-1 抗体
<b>Alias</b>	KL-6; MUC-1; MUC-1/SEC; MUC-1/X; MUC1/ZD; Breast carcinoma associated antigen DF3; CA 15 3; CA15-3; CA15-3 antigen; CA15.3; CA-153; Carcinoma associated mucin; CD 227; CD227; CD227 antigen; DF3 antigen; EMA; Episialin; Epithelial membrane antigen; Epithelial mucin tandem repeat sequence; H23 antigen; H23AG; HGNC:7508; MAM6; MUC 1; MUC-1; Mucin 1; Mucin 1 precursor; Mucin1; Peanut reactive urinary mucin; PEM; PEMT; Polymorphic epithelial mucin; PUM; Tumor associated epithelial membrane antigen; Tumor associated mucin.
<b>Research Area</b>	Tumour immunology
<b>Immunogen Species</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>React Species</b>	Human,Mouse,Rat
<b>Applications</b>	IHC-P=1:50-200 IHC-F=1:50-200 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
<b>Molecular weight</b>	20/138kDa
<b>Form</b>	Lyophilized or Liquid
<b>Concentration</b>	1mg/ml
<b>immunogen</b>	KLH conjugated synthetic peptide derived from human MUC1
<b>Lsotype</b>	IgG2b
<b>Purification</b>	affinity purified by Protein A
<b>Storage Buffer</b>	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
<b>Storage</b>	
<b>Product Detail</b>	<b>background:</b> MUC1 is a large cell surface mucin glycoprotein expressed by most glandular

and ductal epithelial cells and some hematopoietic cell lineages. It is expressed on most secretory epithelium, including mammary gland and some hematopoietic cells. It is expressed abundantly in lactating mammary glands and overexpressed abundantly in >90% breast carcinomas and metastases. Transgenic MUC1 has been shown to associate with all four ccbB receptors and localize with erbB1 (EGFR) in lactating glands. The MUC1 gene contains seven exons and produces several different alternatively spliced variants. The major expressed form of MUC1 uses all seven exons and is a type 1 transmembrane protein with a large extracellular tandem repeat domain. The tandem repeat domain is highly O glycosylated and alterations in glycosylation have been shown in epithelial cancer cells.

**Function:**

The alpha subunit has cell adhesive properties. Can act both as an adhesion and an anti-adhesion protein. May provide a protective layer on epithelial cells against bacterial and enzyme attack.

The beta subunit contains a C-terminal domain which is involved in cell signaling, through phosphorylations and protein-protein interactions. Modulates signaling in ERK, SRC and NF-kappa-B pathways. In activated T-cells, influences directly or indirectly the Ras/MAPK pathway. Promotes tumor progression. Regulates TP53-mediated transcription and determines cell fate in the genotoxic stress response. Binds, together with KLF4, the PE21 promoter element of TP53 and represses TP53 activity.

**Subunit:**

The alpha subunit forms a tight, non-covalent heterodimeric complex with the proteolytically-released beta-subunit.

**Subcellular Location:**

Apical cell membrane; Single-pass type I membrane protein. Isoform 5: Secreted. Isoform 7: Secreted. Isoform 9: Secreted. Mucin-1 subunit beta: Cell membrane. Cytoplasm. Nucleus.

**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.

**Post-translational modifications:**

Highly glycosylated (N- and O-linked carbohydrates and sialic acid). O-glycosylated to a varying degree on serine and threonine residues within each tandem repeat, ranging from mono- to penta-glycosylation. The average

density ranges from about 50% in human milk to over 90% in T47D breast cancer cells. Further sialylation occurs during recycling. Membrane-shed glycoproteins from kidney and breast cancer cells have preferentially sialylated core 1 structures, while secreted forms from the same tissues display mainly core 2 structures. The O-glycosylated content is overlapping in both these tissues with terminal fucose and galactose, 2- and 3-linked galactose, 3- and 3,6-linked GalNAc-ol and 4-linked GlcNAc predominating. Differentially O-glycosylated in breast carcinomas with 3,4-linked GlcNAc.

N-glycosylation consists of high-mannose, acidic complex-type and hybrid glycans in the secreted form MUC1/SEC, and neutral complex-type in the transmembrane form, MUC1/TM.

Proteolytic cleavage in the SEA domain occurs in the endoplasmic reticulum by an autoproteolytic mechanism and requires the full-length SEA domain as well as requiring a Ser, Thr or Cys residue at the P + 1 site. Cleavage at this site also occurs on isoform MUC1/X but not on isoform MUC1/Y. Ectodomain shedding is mediated by ADAM17.

Dual palmitoylation on cysteine residues in the CQC motif is required for recycling from endosomes back to the plasma membrane.

Phosphorylated on tyrosines and serine residues in the C-terminal.

Phosphorylation on tyrosines in the C-terminal increases the nuclear location of MUC1 and beta-catenin. Phosphorylation by PKC delta induces binding of MUC1 to beta-catenin/CTNNB1 and thus decreases the formation of the beta-catenin/E-cadherin complex. Src-mediated phosphorylation inhibits interaction with GSK3B. Src-and EGFR-mediated phosphorylation on Tyr-1229 increases binding to beta-catenin/CTNNB1. GSK3B-mediated phosphorylation on Ser-1227 decreases this interaction but restores the formation of the beta-cadherin/E-cadherin complex. On T-cell receptor activation, phosphorylated by LCK. PDGFR-mediated phosphorylation increases nuclear colocalization of MUC1CT and CTNNB1.

The N-terminal sequence has been shown to begin at position 24 or 28 (PubMed:11341784).

#### **Similarity:**

Contains 1 SEA domain.

#### **Database links:**

[Entrez Gene: 4582](#) Human

[Entrez Gene: 17829](#) Mouse

[Entrez Gene: 24571](#) Rat

[Omim: 158340](#) Human

[SwissProt: P15941](#) Human

[SwissProt: Q02496](#) Mouse

[SwissProt: B2GV31](#) Rat

[Unigene: 89603](#) Human

[Unigene: 16193](#) Mouse

[Unigene: 10779](#) Rat

**Important Note:**

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

CA153 为高分子 glycoprotein, 是乳腺癌 Marker 之一, 其表达的量与乳腺癌的分化程度及雌激素受体高低有关联。近年来, 很多学者研究认为: 在人的很多种恶性 Tumour 中都有 CA15-3 的不同表达。