abcam

Product datasheet

Anti-MUC1 antibody [M8C9] (HRP) ab22751

製品の概要

製品名	Anti-MUC1 antibody [M8C9] (HRP)
製品の詳細	Mouse monoclonal [M8C9] to MUC1 (HRP)
由来種	Mouse
標識	HRP
特異性	ab22751 reacts with VNTR5 and VNTR20 recombinant unglycosylated fragments of MUC1 protein and underglycosylated MUC1 prepared from tumor fluids or as a result of chemical treatment of human milk MUC1. Affinity > 1 x 10^8. ab22751 does not recognise natural MUC1 protein isolated from human milk by affinity purification on carbohydrate epitope specific Mabs. No cross-reactivity with egg white avidin.
アプリケーション	**適用あり:** ICC/IF, IHC-Fr, ELISA, Sandwich ELISA
種交差性	**交差種:** Human
免疫原	Full length protein (Human). A high molecular weight, more than 300 kDa, glycoprotein from human milk-fat globule molecule.
エピトープ	ab22751 binds with high efficiency with a region of GVTSAPDTRPAPGSTAPPAHGVTSA synthetic peptide, spanning the one repeat of VNTR extracellular portion of MUC1 molecule.

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C.
バッファー	Preservative: 0.05% Proclin Constituents: PBS, pH 7.4
精製度	Protein A purified
ポリ/モノ	モノクローナル
クローン名	M8C9
ミエローマ	x63-Ag8.653
アイソタイプ	IgG

アプリケーション

Our Abpromise guarantee covers the use of **ab22751** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

アプリケーション	Abreviews	特記事項
ICC/IF		Use at an assay dependent dilution.
IHC-Fr		Use at an assay dependent dilution.
ELISA		Use at an assay dependent dilution. ab22751 can be used for the construction of highly effective ELISA tests for detection and measurements of unglycosylated tumor-associated MUC1 mucins in human serum. Recommended antibody for capture: ab10123.
Sandwich ELISA		Use at an assay dependent dilution. Recommended for the detection of underglycosylated MUC1. Can be used as both coating and conjugate. Can be used as detection antibody in conjunction with ab10123.

ターゲット情報

機能

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.

組織特異性

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 Y is expressed in tumor cells only.

関連疾患

MUC1/CA 15-3 is used as a serological clinical marker of breast cancer to monitor response to breast cancer treatment and disease recurrence (PubMed:20816948). Decreased levels over time may be indicative of a positive response to treatment. Conversely, increased levels may indicate disease progression. At an early stage disease, only 21% of patients exhibit high MUC1/CA 15-3 levels, that is why CA 15-3 is not a useful screening test. Most antibodies target the highly immunodominant core peptide domain of 20 amino acid (APDTRPAPGSTAPPAHGVTS) tandem repeats. Some antibodies recognize glycosylated epitopes.
Medullary cystic kidney disease 1

配列類似性

Contains 1 SEA domain.

発生段階

During fetal development, expressed at low levels in the colonic epithelium from 13 weeks of gestation.

翻訳後修飾

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 sialyated 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.
細胞内局在	Secreted; Cell membrane. Cytoplasm. Nucleus. On EGF and PDGFRB stimulation, transported to the nucleus through interaction with CTNNB1, a process which is stimulated by phosphorylation. On HRG stimulation, colocalizes with JUP/gamma-catenin at the nucleus and Apical cell membrane. Exclusively located in the apical domain of the plasma membrane of highly polarized epithelial cells. After endocytosis, internalized and recycled to the cell membrane. Located to microvilli and to the tips of long filopodial protusions.

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