abcam

Product datasheet

Anti-MUC1 antibody [HMFG1 (aka 1.10.F3)] ab70475

重组

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概述

产品名称	Anti-MUC1抗体[HMFG1 (aka 1.10.F3)]
描述	小鼠单克隆抗体[HMFG1 (aka 1.10.F3)] to MUC1
宿主	Mouse
经测试应用	**适用于:** ICC/IF, IHC-P, Flow Cyt
种属反应性	**与反应:** Human
免疫原	Full length protein. This information is proprietary to Abcam and/or its suppliers.
表位	This antibody recognizes a peptide epitope (PDTR) within the VNTR region of the extracellular domain of MUC1 (PubMed ID: PMC3021526).
阳性对照	IHC-P: Human endometrium and Human endometrium carcinoma paraffin-embedded sections ICC/IF: MCF7 cells. Flow: MCF7 cells.
常规说明	For a more comprehensive guide to this epitope of HMFG1 clone, we recommend the following publications; **Petrakou E et al. 1998: Epitope Mapping of Anti-MUC1 Mucin Protein Core Monoclonal Antibodies. *Tumour Biology*.** **Verhoeyen ME et al. 1993: Construction of a reshaped HMFG1 antibody and comparison of its fine specificity with that of the parent mouse antibody. *Immunology*.** This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact **orders@abcam.com**. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**.

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -

	80°C. Avoid freeze / thaw cycle.
存储溶液	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 0.05% BSA, 40% Glycerol (glycerin, glycerine)
纯度	Protein A purified
克隆	单克隆
克隆编号	HMFG1 (aka 1.10.F3)
骨髓瘤	P3-NS1/1-Ag4-1
同种型	IgG1

应用

The Abpromise guarantee Abpromise™承诺保证使用ab70475于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
ICC/IF		1/100.
IHC-P		1/5000.
Flow Cyt		1/1000.

靶标

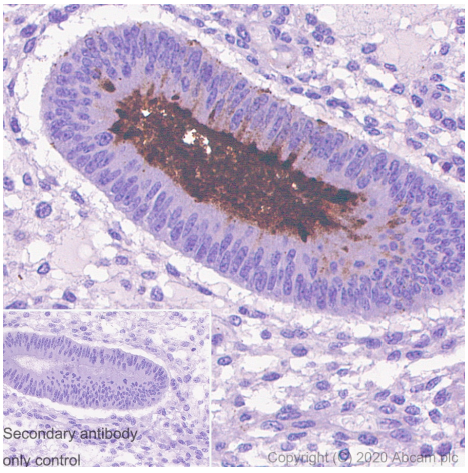
功能 The alpha subunit has cell adhesive properties. Can act both as an adhesion and an anti-adhesion protein. May provide a protective layer on epithelial cells against bacterial and enzyme attack.
The beta subunit contains a C-terminal domain which is involved in cell signaling, through phosphorylations 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.

组织特异性 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.

疾病相关 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

序列相似性	Contains 1 SEA domain.
发展阶段	During fetal development, expressed at low levels in the colonic epithelium from 13 weeks of gestation.
翻译后修饰	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.
细胞定位	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.

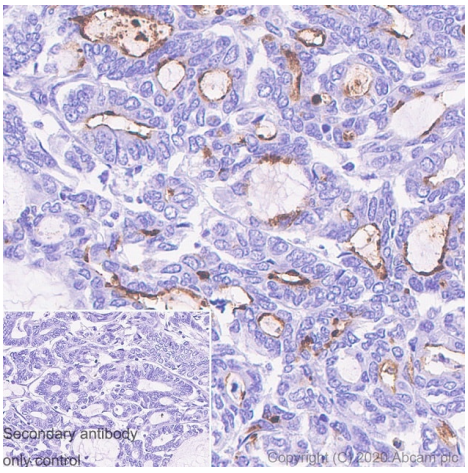
图片



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MUC1 antibody [HMFG1 (aka 1.10.F3)] (ab70475)

Immunohistochemical analysis of paraffin-embedded Human endometrium tissues labeling MUC1 with ab70475 at 1/5000 dilution followed by LeicaDS9800 (Bond™ Polymer Refine Detection). The section was incubated with ab70475 for 30 mins at room temperature and followed by mouse IgG antibody (**ab125913**, 1:1000) for 8 mins. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin

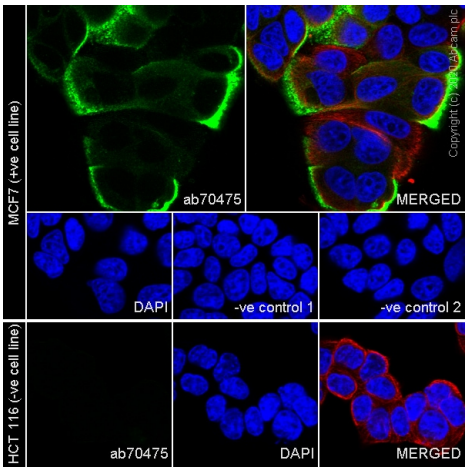
Apical staining on human endometrium.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MUC1 antibody [HMFG1 (aka 1.10.F3)] (ab70475)

Immunohistochemical analysis of paraffin-embedded Human endometrium carcinoma tissues labeling MUC1 with ab70475 at 1/5000 dilution followed by LeicaDS9800 (Bond™ Polymer Refine Detection). The section was incubated with ab70475 for 30 mins at room temperature and followed by mouse IgG antibody (**ab125913**, 1:1000) for 8 mins. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin

Apical staining on human endometrium carcinoma.

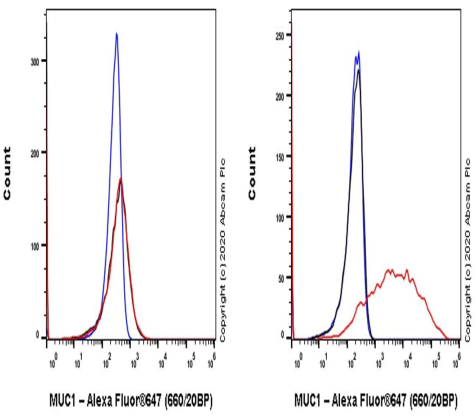


Immunocytochemistry/ Immunofluorescence - Anti-MUC1 antibody [HMFG1 (aka 1.10.F3)] (ab70475)

Confocal image showing membranous and cytoplasmic staining in MCF7 cells.

MCF7/ HCT 116 cells were fixed in 4% PFA and permeabilized with 0.1% Triton X-100. Primary antibody, ab70475 at 1:100 was incubated overnight at 4° C, followed by AlexaFluor® 488-conjugated Goat anti-Mouse secondary antibody (**ab150113**) at 1/1000 dilution at RT for 45 min. **ab179513** Anti-beta Tubulin, used as a counterstain at 1/200 dilution, was co-incubated with **ab9509** overnight at 4° C, followed by Alexa Fluor® 594 Goat Anti-Rabbit secondary (**ab150080**) at 1/1000 dilution at RT for 45 min. Nucleus were visualized using DAPI.

Negative control: HCT 116 (PMID: 14998492)



Flow Cytometry - Anti-MUC1 antibody [HMFG1 (aka 1.10.F3)] (ab70475)

Flow Cytometry analysis of HCT 116 (Human colorectal carcinoma epithelial cell, Left) / MCF7 (Human breast adenocarcinoma epithelial cell, Right) cells stained for MUC1 using AB70475 at a 1/1000 dilution (0.1 µg) (Red) compared to Mouse monoclonal IgG - Isotype Control (Black) and cells without incubation with primary antibody and secondary antibody (Blue). Goat Anti-Mouse IgG (Alexa Fluor® 647, **ab150119**) at 1/2000 dilution was used as the secondary antibody.

Negative control; HCT 116. (PMID: 14998492)

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