

Human MUC1 (CD227) Antibody

Biotin

Hybridoma Monoclonal Antibody

Product Information

Product No.: M463

Clone: HMFG2

Isotype: Mouse IgG1 L

Storage: Sterile 2° to 8°C

Product Description

Specificity:

HMFG2 activity is directed against human MUC1 (CD227).

Antigen Distribution:

MUC1 is a cell surface antigen expressed on mucosal epithelial tissues, T cells, B cells, bone marrow mononuclear cells, human blood dendritic cells, and monocyte-derived dendritic cells following in vitro activation. MUC1 is also found in the cytoplasm and cytoplasmic membrane of ductal cells, primarily in the striated ducts of the parotid and submandibular human glands and in the secretory compartment.

Background:

MUC1 is a large, highly glycosylated transmembrane mucin which contains a very large extracellular domain of 1000-2200 amino acids consisting primarily of 20 amino acid tandem repeats¹. MUC1 is a member of a family of related cell surface epithelial mucins^{1,2} and is structurally related to hemopoietic and endothelial sialomucins such as GlyCAM1 and MadCAM-1².

MUC1 forms part of the mucous gel that covers the external surface of epithelial tissues and acts as a barrier to infection¹. Additionally, MUC1 is involved in signal transduction via its highly conserved cytoplasmic tail, which is tyrosine phosphorylated in activated dendritic cells and T cells², and binds all members of the ErbB family of receptor tyrosine kinases as well as β -catenin¹. Additionally, there is interest in using MUC1 as a target antigen for cancer immunotherapy for carcinomas and multiple myeloma², due to variations in glycosylation that can be present in cancer¹.

HMFG2 was generated by immunizing BALB/c mice with delipidated human milk fat globule (HMFG) containing the intact mucin, and subsequently immunizing with mammary epithelial cells³. Spleen cells were fused with myeloma line P3/NSI/I-Ag4-1 to create hybridomas, which were screened for specificity against epithelial cells. HMFG2 reacts with an underglycosylated MUC1 mucin⁴ and recognizes oligosaccharide sequences containing galactose, N-acetyl glucosamine and N-acetyl galactosamine, specifically the DTR sequence of the core protein⁵. Binding to the core-protein epitopes is influenced by the length of the carbohydrate side chains⁶.

Known Reactivity Species:

Human

Format:

Biotin

Immunogen:

MUC1 (CD227)

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Formulation

This Biotinylated antibody is formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.4, 1% BSA and 0.09% sodium azide as a preservative.

Storage and Stability

This biotinylated antibody is stable when stored at 2-8°C.

Do not freeze.

Other Applications Reported in Literature:

IHC
ELISA
WB
FC

Country of Origin

USA

References

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