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ProductInformation

MONOCLONAL ANTI-HUMAN GASTRIC MUCIN
Mouse Ascites Fluid
Clone 45M1

Product Code **M 5293**

Product Description

Monoclonal Anti-Human Gastric Mucin (mouse IgG1 isotype) is derived from the 445M1 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with mucin isolated from human ovarian cyst fluid.[1] The isotype is determined using the Sigma ImmunoType™ Kit (Sigma Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Product Code ISO-2).

Mucin is a high M.W. (>1,000 kDa) glycoprotein, expressed by mucus cells of the gastric epithelium and by goblet cells of the fetal, precancerous and cancerous colon, but not by those of the normal colon.[3] It also appears in other epithelial tissues, which are embryologically derived from the foregut (epigastric and bronchial epithelium) and in Müller ducts (mucus cells of the endocervix and urethral epithelium near the prostatic utriculus).[1] Mucin is composed of a peptide core containing heavily glycosylated regions and non-glycosylated regions.[4] The heavily glycosylated components of mucin consist of a mosaic of epitopes, some of which are associated with saccharide moieties and are related to blood-group antigens, and others which are M1 antigens associated with the peptidic core.[1,2] M1 antigens are common to human ovarian mucinous cyst fluids and to gastric mucosa. At least 8 different epitopes have been identified in the M1 antigen, applying epitope-specific antibodies. These epitopes are designated a-h epitopes.[1] M1 is distributed in various human tumors such as the colon, stomach, pancreas, ovary, Barrets' esophagus, endocervix, and endometrium carcinomas. For instance, cells constituting mucinous tumors of the ovary do not share morphologic characteristics with normal ovarian cells. Rather, they usually mimic epithelial cells in the normal and neoplastic endocervix and in normal intestine.[5]

Reagent

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Monoclonal Anti-Human Gastric Mucin recognizes the mucin epitope "g" located in the peptide core of gastric mucin.[1] This epitope is completely destroyed by thiol reduction (using 2-mercaptoethanol) and partially lost following trypsin proteolysis, but is stable upon periodate oxidation.[1,2] The antibody reacts with ethanol-fixed, cultured epithelial cells and ethanol- or formalin-fixed, paraffin-embedded tissue sections.[1] It stains the surface gastric epithelium of normal human gastrointestinal tract and reacts with fetal, precancerous and cancerous colonic mucosa, but not with normal colon.[1] The product cross-reacts with human, monkey, mouse, rat, cat, rabbit, pig, hedgehog, and chicken.[1,2] It may be used in immunoblotting (non-reducing conditions),[1] immunocytochemistry, immuno-histochemistry,[1,2] and immunoradiofixation.[1] Enzymatic pretreatment of formalin-fixed, paraffin-embedded sections may enhance staining intensity.

Monoclonal Anti-Human Gastric Mucin may be used for the localization of gastric mucin using various immunochemical assays such as immunoblot, immunohistochemistry, and immunoradiofixation.

In order to obtain best results in different techniques or preparations, it is recommended that each individual user determine their optimal working dilutions by titration assay.

References

1. Bara, J., et al., Int. J. Cancer, **47**, 304 (1991).
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3. Bara, J., et al., Cancer Res., **46,** 3983 (1986).
4. Bara, J., et al., Biochem. J., **254,** 185 (1988).
5. Tenti, P., et al., Cancer, **69,** 2131 (1992).

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