

## Anti-Human CD227 (Mucin 1) Alexa Fluor<sup>®</sup> 488

**Catalog Number:** 53-9893

**Also known as:** Mucin Glycoprotein, MUC1, EMA (Epithelial Membrane Antigen), Episialin, Tumor-Associated Mucin, PEM (Polymorphic Epithelial Mucin), Breast Cancer-Associated Antigen

**RUO: For Research Use Only. Not for use in diagnostic procedures.**

### Product Information

**Contents:** Anti-Human CD227 (Mucin 1)  
Alexa Fluor<sup>®</sup> 488

 **Catalog Number:** 53-9893

**Clone:** SM3

**Concentration:** 0.5 mg/mL

**Host/Isotype:** Mouse IgG1

**Formulation:** aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer

**Temperature Limitation:** Store at 2-8°C. Do not freeze. Light-sensitive material.

**Batch Code:** Refer to vial

**Use By:** Refer to vial

**Contains sodium azide**



### Description

This SM3 monoclonal antibody reacts with the under-glycosylated form of human Mucin 1 (MUC1, CD227), a large glycoprotein belonging to the mucin protein family. Mucin 1 contains a polypeptide core consisting of multiple tandem repeats that become highly glycosylated. Mucin 1 is typically expressed in ductal or glandular epithelial cells and is localized to the apical membrane. In cancerous cells, Mucin 1 expression is increased and membrane-specific localization is lost resulting in expression throughout the membrane and cytoplasm. High levels of under-glycosylated Mucin 1 are thought to affect cell behavior during both invasion and metastasis as well as in immune recognition. In addition, under-glycosylated Mucin 1 is shed from the epithelial cell surface and can be detected in circulation. Alterations in Mucin 1 glycosylation are found in most adenocarcinomas of the breast, lung, pancreas, prostate, and ovary. Mucin 1 has recently been shown to co-localize and interact with members of the erbB receptor kinase family, proteins that are upregulated in more aggressive forms of breast cancer.

Please note this antibody sees a distinct epitope from other Mucin 1 antibodies.

### Applications Reported

This SM3 antibody has been reported for use in flow cytometric analysis and immunocytochemistry.

### Applications Tested

This SM3 antibody has been tested by flow cytometry and can be used at less than or equal to 1 µg/ml. This SM3 antibody has also been tested by immunocytochemistry on methanol fixed MCF7 cells and can be used at less than or equal to 20 µg/ml. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

### References

Croce MV, Isla-Larrain MT, Rua CE, Rabassa ME, Gendler SJ, Segal-Eiras A. Patterns of MUC1 tissue expression defined by an anti-MUC1 cytoplasmic tail monoclonal antibody in breast cancer. *J Histochem Cytochem.* 2003 Jun;51(6):781-8.

Pereira MB, Dias AJ, Reis CA, Schmitt FC. Immunohistochemical study of the expression of MUC5AC and MUC6 in breast carcinomas and adjacent breast tissues. *J Clin Pathol.* 2001 Mar;54(3):210-3.(SM3, IHC-FFPE)

Mukherjee P, Ginardi AR, Madsen CS, Sterner CJ, Adriance MC, Tevethia MJ, Gendler SJ. Mice with spontaneous pancreatic cancer naturally develop MUC-1-specific CTLs that eradicate tumors when adoptively transferred. *J Immunol.* 2000 Sep 15;165(6):3451-60.

Lloyd KO, Burchell J, Kudryashov V, Yin BW, Taylor-Papadimitriou J. Comparison of O-linked carbohydrate chains in MUC-1 mucin from normal breast epithelial cell lines and breast carcinoma cell lines. Demonstration of simpler and fewer glycan chains in tumor cells. *J Biol Chem.* 1996 Dec 27;271(52):33325-34.(SM3, WB)

Ioannides CG, Fisk B, Jerome KR, Irimura T, Wharton JT, Finn OJ. Cytotoxic T cells from ovarian malignant tumors can recognize polymorphic epithelial mucin core peptides. *J Immunol.* 1993 Oct 1;151(7):3693-703.(SM3, FC)

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[info@ebioscience.com](mailto:info@ebioscience.com)

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Burchell J, Taylor-Papadimitriou J, Boshell M, Gendler S, Duhig T. A short sequence, within the amino acid tandem repeat of a cancer-associated mucin, contains immunodominant epitopes. *Int J Cancer*. 1989 Oct 15;44(4):691-6.

### Related Products

53-4714 Mouse IgG1 K Isotype Control Alexa Fluor® 488 (P3.6.2.8.1)

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