Anti-Human MUC1 (CD227) Antibody, Clone 214D4

Antibodies

Mouse monoclonal IgG1 antibody against human MUC1 (CD227), unconjugated

Catalog #60137

200 µg 1 mg/mL

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Product Description

The 214D4 antibody reacts with MUC1 (also known as CD227), a large cell surface glycoprotein expressed by most glandular and ductal epithelial cells as well as a variety of hematopoietic cells. A characteristic feature of the MUC1 glycoprotein is a core protein domain composed of a variable number of tandem repeats and multiple oligosaccharide side chains. Because the extracellular portion of MUC1 can extend beyond most cell surface proteins, it is thought to play a role in cell-cell and cell-substrate adhesion. The protein is highly expressed by the majority of human adenocarcinomas and is associated with a poor prognosis. In the mammary gland, MUC1 is localized on the apical plasma membrane of luminal epithelial cells. The 214D4 antibody clone is particularly useful since it enriches for luminal-restricted but not bipotent epithelial progenitor cells from normal human mammary tissue.

Target Antigen Name:	MUC1 (CD227)
Alternative Names:	CD227, EMA, Episialin, Epithelial membrane antigen, HMFG antigen, MAM6, Mucin 1, PEM, Polymorphic epithelial mucin
Gene ID:	4582
Species Reactivity:	Human
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	214D4
Isotype:	IgG1
Immunogen:	Recombinant protein comprising the mucin-like repeat domain of human MUC1 (CD227) fused to beta-galactosidase
Conjugate:	Unconjugated

Applications

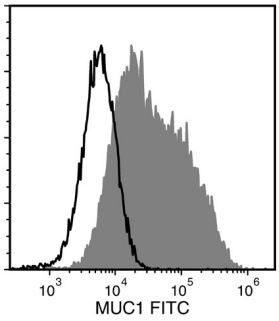
Verified:	FC, IHC
Reported:	FC, IHC

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Tris-glycine, pH 7.4, containing sodium chloride and 0.05% sodium azide before the addition of glycerol to 30%
Purification:	The antibody was purified by protein G chromatography.
Stability and Storage:	Product stable at -20°C when stored undiluted. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	The suggested use of this antibody is: FC, 1 - 3 µg/mL per 1 x 10^6 cells in 100 µL; IHC, 1 - 3 µg/mL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



Flow cytometry analysis of human MCF7 cells labeled with Anti-Human MUC1 (CD227) Antibody, Clone 214D4, followed by a rat anti-mouse IgG1 antibody, FITC (filled histogram) or a mouse IgG1, kappa isotype control antibody, followed by a rat anti-mouse IgG1 antibody, FITC (solid line histogram).

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Silva AL et al. (2014) MUC1 expression in Fallopian tubes of women with hydrosalpinx. Eur J Obstet Gynecol Reprod Biol 180: 106–10. (IHC)
2. Martignani E et al. (2010) Human milk protein production in xenografts of genetically engineered bovine mammary epithelial stem cells. PLoS One 5(10): e13372. (FC)
3. Eirew P et al. (2008) A method for quantifying normal human mammary epithelial stem cells with in vivo regenerative ability. Nat Med 14(12): 1384–9. (IHC)
4. O'Connor JC et al. (2005) MUC1 expression in human prostate cancer cell lines and primary tumors. Prostate Cancer Prostatic Dis 8(1): 36–44.
5. Jarrard JA et al. (1998) MUC1 is a novel marker for the type II pneumocyte lineage during lung carcinogenesis. Cancer Res 58(23): 5582–9.

Please refer to the Safety Data Sheet (SDS) for hazard information.