SANTA CRUZ BIOTECHNOLOGY, INC.

CD15 (C3D-1): sc-19648

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fucosyltransferases (FucTs) catalyze the covalent association of fucose to different positional linkages on sugar acceptor molecules. The carbohydrate moieties that are generated are covalently attached to cell surfaces and are necessary to ensure a surface contour that satisfies a variety of physiological roles. CD15, also known as Lewis X or Le^X, is a carbohydrate antigen that is generated by FucT-IV (α 1,3-fucosyltransferase IV). Commonly found on the surface of leukocytes and some tumor cells, CD15 is a trisaccharide that is synthesized when FucT-IV transfers an α-fucose residue onto the β-GlcNAc moiety of cellular N-acetyllactosamines. CD15 functions as an adhesion molecule capable of calcium-mediated homotypic binding. Cells with high surface expression of CD15, therefore, exhibit strong self-aggregation (based on CD15-CD15 interaction) in the presence of calcium. Additionally, CD15 is thought to be a ligand for selectins (proteins involved in mediating leukocyte-specific cellular interactions), further supporting its role as a cell-adhesion protein.

REFERENCES

1. Eggens, I., et al. 1989. Specific interaction between Lex and Lex determinants. A possible basis for cell recognition in preimplantation embryos and in embryonal carcinoma cells. J. Biol. Chem. 264: 9476-9484.
2. Hakomori, S. 1992. Le(X) and related structures as adhesion molecules. Histochem. J. 24: 771-776.

CHROMOSOMAL LOCATION

Genetic locus: FUT4 (human) mapping to 11q21; Fut4 (mouse) mapping to 9 A2.

SOURCE

CD15 (C3D-1) is a mouse monoclonal antibody raised against purified neutrophils of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD15 (C3D-1) is available conjugated to either fluorescein (sc-19648 FITC) or Alexa Fluor® 488 (sc-19648 AF488), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

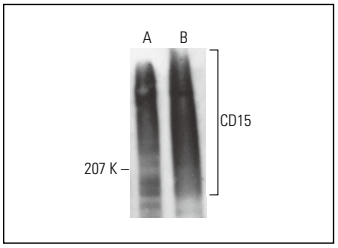
CD15 (C3D-1) is recommended for detection of CD15 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Positive Controls: F9 cell lysate: sc-2245, H69AR whole cell lysate: sc-364382 or mouse kidney extract: sc-2255.

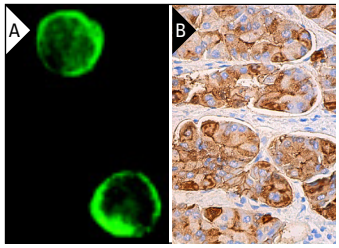
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



CD15 (C3D-1): sc-19648. Western blot analysis of CD15 expression in F9 whole cell lysate (**A**) and mouse kidney tissue extract (**B**).



CD15 (C3D-1): sc-19648. Immunofluorescence staining of methanol-fixed HL-60 cells showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Higgins, S.C., et al. 2010. Human, mouse or rat? Species authentication of glioma-derived cell cultures. J. Neurosci. Methods 194: 139-143.
2. Köhler, D., et al. 2011. Phosphorylation of vasodilator-stimulated phosphoprotein (VASP) dampens hepatic ischemia-reperfusion injury. PLoS ONE 6: e29494.
3. Köhler, D., et al. 2013. The uncoordinated-5 homolog B (UNC5B) receptor increases myocardial ischemia-reperfusion injury. PLoS ONE 8: e69477.
4. Wang, L., et al. 2016. Follicular dendritic cell sarcoma of the spleen: a case report and review of the literature. Oncol. Lett. 12: 2062-2064.
5. Ceccarelli, M., et al. 2020. Deletion of Btg1 induces Prmt1-dependent apoptosis and increased stemness in Shh-Type medulloblastoma cells without affecting tumor frequency. Front. Oncol. 10: 226.
6. Cong, J., et al. 2021. MiR-200c/FUT4 axis prevents the proliferation of colon cancer cells by downregulating the Wnt/β-catenin pathway. BMC Cancer 21: 2.
7. Ceccarelli, M., et al. 2021. Tumor growth in the high frequency medulloblastoma mouse model $Ptch1^{+/-}$/$Tis21^{KO}$ has a specific activation signature of the PI3K/Akt/mTOR pathway and is counteracted by the PI3K inhibitor MEN1611. Front. Oncol. 11: 692053.
8. Ngamsri, K.C., et al. 2021. CXCR4 and CXCR7 inhibition ameliorates the formation of platelet-neutrophil complexes and neutrophil extracellular traps through Adora2b signaling. Int. J. Mol. Sci. 22: 13576.
9. Shuoker, B., et al. 2023. Sialidases and fucosidases of *Akkermansia muciniphila* are crucial for growth on mucin and nutrient sharing with mucus-associated gut bacteria. Nat. Commun. 14: 1833.

RESEARCH USE

For research use only, not for use in diagnostic procedures.