

CD151 (11G5a): sc-80715

BACKGROUND

CD151 is involved in a wide variety of cell biological processes, including cell adhesion and the transport of integrins via vesicles. The human CD151 gene maps to chromosome 11p15.5 and encodes a 253 amino acid protein, which belongs to the tetraspan (4TM) superfamily. CD151 can associate with several integrin chains including $\beta 1$, $\beta 3$, $\beta 4$, $\alpha 2$, $\alpha 3$, $\alpha 5$ and $\alpha 6$ integrins. CD151 may provide a framework for the spatial organization of both type I and type II hemidesmosomes, which are specialized junctional complexes that function as cell attachment sites for binding to basement membranes. CD151 RNA transcript (1.6 kb) can be detected in M07e cells, bone marrow stromal cells, C11 endothelial cells, HUVEC and several myeloid leukemia cell lines, however, no transcript is detected in brain and the lymphoblastoid cell lines MOLT-4 and BALM-1. Leu 149-Glu 213 of CD151 is the interface through which Integrin $\alpha 3/\beta 1$ can bind. CD151 can enhance cell motility, invasion and metastasis of cancer cells in a focal adhesion kinase dependent manner.

REFERENCES

1. Fitter, S., et al. 1995. Molecular cloning of cDNA encoding a novel platelet-endothelial cell tetraspan antigen, PETA-3. *Blood* 86: 1348-1355.
2. Hasegawa, H., et al. 1996. SFA-1, a novel cellular gene induced by human T cell leukemia virus type 1, is a member of the transmembrane 4 superfamily. *J. Virol.* 70: 3258-3263.
3. Sincoc, P.M., et al. 1999. PETA-3/CD151, a member of the transmembrane 4 superfamily, is localised to the plasma membrane and endocytic system of endothelial cells, associates with multiple integrins and modulates cell function. *J. Cell Sci.* 112: 833-844.
4. Sterk, L.M., et al. 2000. The tetraspan molecule CD151, a novel constituent of hemidesmosomes, associates with the Integrin $\alpha 6/\beta 4$ and may regulate the spatial organization of hemidesmosomes. *J. Cell Biol.* 149: 969-982.
5. Geary, S.M., et al. 2001. Differential tissue expression of epitopes of the tetraspanin CD151 recognized by monoclonal antibodies. *Tissue Antigens* 58: 141-153.

CHROMOSOMAL LOCATION

Genetic locus: CD151 (human) mapping to 11p15.5.

SOURCE

CD151 (11G5a) is a mouse monoclonal antibody raised against CD151 of human origin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD151 (11G5a) is available conjugated either phycoerythrin (sc-80715 PE, 100 tests in 2 ml) or fluorescein (sc-80715 FITC, 200 μ g/ml), for IF, IHC(P) and FCM.

APPLICATIONS

CD151 (11G5a) is recommended for detection of CD151 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for CD151 siRNA (h): sc-42829, CD151 shRNA Plasmid (h): sc-42829-SH and CD151 shRNA (h) Lentiviral Particles: sc-42829-V.

Molecular Weight of CD151: 28-32 kDa.

Positive Controls: human platelet extract: sc-363773.

SELECT PRODUCT CITATIONS

1. Zhu, G.H., et al. 2011. Expression and prognostic significance of CD151, c-Met, and integrin $\alpha 3/\alpha 6$ in pancreatic ductal adenocarcinoma. *Dig. Dis. Sci.* 56: 1090-1098.
2. Han, Z.B., et al. 2013. MicroRNA-124 suppresses breast cancer cell growth and motility by targeting CD151. *Cell. Physiol. Biochem.* 31: 823-832.
3. Zhou, H., et al. 2013. Knockdown of TRB3 induces apoptosis in human lung adenocarcinoma cells through regulation of Notch 1 expression. *Mol. Med. Rep.* 8: 47-52.

RESEARCH USE

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