Antibodies

Anti-Human CD51 Antibody, Clone NKI-M9, Biotin

Mouse monoclonal IgG2a antibody against human CD51 (integrin αV), biotin-conjugated

Catalog #60043BT

100 µg 0.5 mg/mL

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Product Description

The NKI-M9 antibody reacts with CD51 (vitronectin receptor α chain, or integrin αV), a type I transmembrane glycoprotein containing two subunits (125 kDa and 24 kDa) which are generated by post-translational cleavage and are linked by a disulfide bond. CD51 associates non-covalently with integrin β1 (CD29), β3 (CD61), β5, β6, or β8 to form heterodimeric cell adhesion receptors for extracellular matrix components such as fibrinogen, collagen, fibronectin, laminin, osteopontin, thrombospondin, vitronectin and von Willebrand factor. For example, association of CD51 and CD61 forms the integrin αv/β3 receptor primarily involved in binding vitronectin. In addition to mediating adhesion and cytoskeletal organization, CD51-containing integrins have roles in signal transduction and thereby modulate processes such as cell proliferation, differentiation and migration. Both ligand binding and ligand-induced receptor clustering are necessary for initiating integrin-mediated responses. CD51 is expressed broadly on many types of cells, including endothelial cells, fibroblasts, monocytes, macrophages, platelets (at relatively low levels) and osteoclasts. It is also found on hepatoma, melanoma and neuroblastoma cells.

Target Antigen Name:	CD51 (Integrin αV)
Alternative Names:	Integrin αV, αV integrin, Vitronectin receptor α chain,
Gene ID:	3685
Species Reactivity:	Human
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	NKI-M9
Isotype:	IgG2a, kappa
Immunogen:	Human melanoma cells
Conjugate:	Biotin

Applications

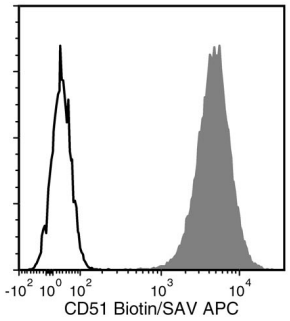
Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for labeling human mesenchymal cells grown in MesenCult™ Proliferation Kit (Human; Catalog #05411) and MesenCult™-XF Medium (Catalog #05420).

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:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography and conjugated with biotin under optimal conditions. The solution is free of unconjugated biotin.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	For flow cytometry the suggested use of this antibody is ≤ 0.5 µg per 1 x 10^6 cells in 100 µL volume. It is recommended that the antibody be titrated for optimal performance for each application.

Data



Flow cytometry analysis of human HT1080 fibrosarcoma cells labeled with Anti-Human CD51 Antibody, Clone NKI-M9, Biotin, followed by streptavidin (SAV) APC (filled histogram), or Mouse IgG2a, kappa Isotype Control Antibody, Clone MOPC-173, Biotin (Catalog #60071BT), followed by SAV APC (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. Zola H et al. (2007) Leukocyte and Stromal Cell Molecules: The CD Markers. New York: John Wiley & Sons Inc.
2. Burdick MM et al. (2003) Colon carcinoma cell glycolipids, integrins, and other glycoproteins mediate adhesion to HUVECs under flow. Am J Physiol Cell Physiol 284(4): C977–87.
3. Grzeszkiewicz TM et al. (2001) CYR61 stimulates human skin fibroblast migration through Integrin alpha vbeta 5 and enhances mitogenesis through integrin alpha vbeta 3, independent of its carboxyl-terminal domain. J Biol Chem 276(24): 21943–50.
4. Levy L et al. (2000) beta1 integrins regulate keratinocyte adhesion and differentiation by distinct mechanisms. Mol Biol Cell 11(2): 453–66.
5. Juliano R. (1996) Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. Bioessays 18(11): 911–7.
6. Miyamoto S et al. (1995) Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. Science 267(5199): 883–5.
7. Schlossman S et al. (Eds.). (1995) Leucocyte Typing V: White cell differentiation antigens. New York: Oxford University Press.
8. Hynes RO. (1992) Integrins: versatility, modulation, and signaling in cell adhesion. Cell 69(1): 11–25.
9. Defilippi P et al. (1991) Differential distribution and modulation of expression of alpha 1/beta 1 integrin on human endothelial cells. J Cell Biol 114(4): 855–63.
10. Sonnenberg A et al. (1990) Integrin recognition of different cell-binding fragments of laminin (P1, E3, E8) and evidence that alpha 6 beta 1 but not alpha 6 beta 4 functions as a major receptor for fragment E8. J Cell Biol 110(6): 2145–55.
11. Knapp W et al. (Eds.). (1989) Leucocyte Typing IV: White cell differentiation antigens (pp. 628–34). New York: Oxford University Press.
12. Horton MA et al. (1985) Monoclonal antibodies to osteoclastomas (giant cell bone tumors): definition of osteoclast-specific cellular antigens. Cancer Res 45(11): 5663–9.