

Integrin $\alpha 4/\beta 7$ (DATK32): sc-23920

BACKGROUND

The members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These seven transmembrane proteins include the adrenergic, serotonin and dopamine receptors. The effect of the signaling molecule can be excitatory or inhibitory, depending on the type of receptor to which it binds. β -adrenergic bound to adrenaline activates adenylyl cyclase, while α_2 -adrenergic receptor bound to adrenaline inhibits adenylyl cyclase. The dopamine receptors are divided into two classes, D1 and D2, which differ in their functional characteristics in that D1 receptors stimulate adenylyl cyclase, while D2 receptors inhibit adenylyl cyclase activity. Five different subtypes of dopamine receptor have been described to date. D1DR and D5DR belong to the D1 subclass, while D2DR, D3DR and D4DR belong to the D2 subclass of dopamine receptors. The dopamine transporter, DAT, is a sodium and chloride-dependent dopamine transporter. DAT also can transport dopamine neurotoxins and has been implicated in the selective vulnerability of nigrostriatal dopaminergic neurons in major models of Parkinson's disease.

REFERENCES

1. Takada, Y., et al. 1989. The primary structure of the $\alpha 4$ subunit of VLA-4: homology to other integrins and a possible cell-cell adhesion function. *EMBO J.* 8: 1361-1368.
2. Rosen, G.D., et al. 1991. Characterization of the $\alpha 4$ integrin gene promoter. *Proc. Natl. Acad. Sci. USA* 88: 4094-4098.
3. Teixidó, J., et al. 1992. Functional and structural analysis of VLA-4 integrin $\alpha 4$ subunit cleavage. *J. Biol. Chem.* 267: 1786-1791.
4. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.
5. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
6. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
7. Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.
8. Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.

CHROMOSOMAL LOCATION

Genetic locus: Itga4 (mouse) mapping to 2 C3, Itgb7 (mouse) mapping to 15 F3.

SOURCE

Integrin $\alpha 4/\beta 7$ (DATK32) is a rat monoclonal antibody raised against cells of the TK-1 T-cell lymphoma of murine origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for inhibition of $\alpha 4\beta 7$ mediated lymphocyte adhesion activities, including binding to MadCam-1, VCAM-1, and fibronectin, sc-23920 L, 200 μ g/0.1 ml.

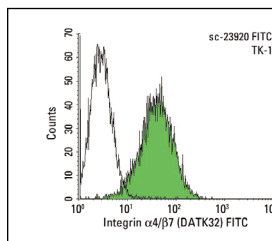
Integrin $\alpha 4/\beta 7$ (DATK32) is available conjugated to either phycoerythrin (sc-23920 PE) or fluorescein (sc-23920 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

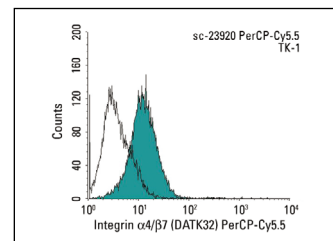
Integrin $\alpha 4/\beta 7$ (DATK32) is recommended for detection of Integrin $\alpha 4/\beta 7$ heterodimer (LPAM-1) of mouse origin by flow cytometry (1 μ g per 1 x 10⁶ cells).

Molecular Weight of Integrin $\alpha 4/\beta 7$: 150 kDa.

DATA



Integrin $\alpha 4/\beta 7$ (DATK32): sc-23920. Indirect FCM analysis of TK-1 cells stained with Integrin $\alpha 4/\beta 7$ (DATK32), followed by FITC-conjugated goat anti-rat IgG: sc-2011. Black line histogram represents the isotype control, normal rat IgG_{2a}: sc-3883.



Integrin $\alpha 4/\beta 7$ (DATK32): sc-23920. Indirect FCM analysis of TK-1 cells stained with Integrin $\alpha 4/\beta 7$ (DATK32), followed by PerCP-Cy5.5-conjugated goat anti-rat IgG: sc-45100. Black line histogram represents the isotype control, normal rat IgG_{2a}: sc-3883.

RESEARCH USE

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

PROTOCOLS

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