

Integrin $\beta 1$ (4B7R): sc-9970

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16 α and 8 β subunits heterodimerize to produce more than 20 different receptors. Most integrin receptors bind ligands that are components of the extracellular matrix, including Fibronectin, collagen and Vitronectin. Certain integrins can also bind to soluble ligands such as Fibrinogen, or to counterreceptors on adjacent cells such as the intracellular adhesion molecules (ICAMs), leading to aggregation of cells. Ligands serve to cross-link or cluster integrins by binding to adjacent integrin receptors; both receptor clustering and ligand occupancy are necessary for the activation of integrin-mediated responses. In addition to mediating cell adhesion and cytoskeletal organization, integrins function as signaling receptors. Signals transduced by integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis.

CHROMOSOMAL LOCATION

Genetic locus: ITGB1 (human) mapping to 10p11.22; Itgb1 (mouse) mapping to 8 E2.

SOURCE

Integrin $\beta 1$ (4B7R) is a mouse monoclonal antibody raised against full length Integrin $\beta 1$ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin $\beta 1$ (4B7R) is available conjugated to agarose (sc-9970 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9970 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9970 PE), fluorescein (sc-9970 FITC), Alexa Fluor[®] 488 (sc-9970 AF488), Alexa Fluor[®] 546 (sc-9970 AF546), Alexa Fluor[®] 594 (sc-9970 AF594) or Alexa Fluor[®] 647 (sc-9970 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-9970 AF680) or Alexa Fluor[®] 790 (sc-9970 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Integrin $\beta 1$ (4B7R) is available conjugated to Alexa Fluor[®] 405 (sc-9970 AF405), 100 μ g/2 ml, for IF, IHC(P) and FCM.

APPLICATIONS

Integrin $\beta 1$ (4B7R) is recommended for detection of Integrin $\beta 1$ of mouse, rat and human origin by 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), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

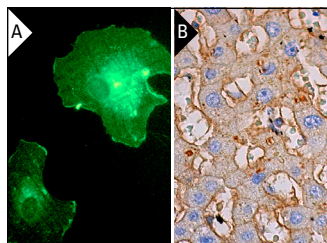
Suitable for use as control antibody for Integrin $\beta 1$ siRNA (h): sc-35674, Integrin $\beta 1$ siRNA (m): sc-35675, Integrin $\beta 1$ shRNA Plasmid (h): sc-35674-SH, Integrin $\beta 1$ shRNA Plasmid (m): sc-35675-SH, Integrin $\beta 1$ shRNA (h) Lentiviral Particles: sc-35674-V and Integrin $\beta 1$ shRNA (m) Lentiviral Particles: sc-35675-V.

Molecular Weight of Integrin $\beta 1$: 138 kDa.

STORAGE

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

DATA



Integrin $\beta 1$ (4B7R): sc-9970. Immunofluorescence staining of methanol-fixed HUV-EC-C cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes (B).

SELECT PRODUCT CITATIONS

- Guerrero, C.A., et al. 2000. Integrin $\alpha_v\beta_3$ mediates rotavirus cell entry. Proc. Natl. Acad. Sci. USA 97: 14644-14649.
- Bruzzone, A., et al. 2014. Dosage-dependent regulation of cell proliferation and adhesion through dual β_2 -adrenergic receptor/cAMP signals. FASEB J. 28: 1342-1354.
- Shi, Z., et al. 2015. Stress granules modulate SYK to cause microglial cell dysfunction in Alzheimer's disease. EBioMedicine 2: 1785-1798.
- Amara, S., et al. 2016. NFAT5/Stat3 interaction mediates synergism of high salt with IL-17 towards induction of VEGF-A expression in breast cancer cells. Oncol. Lett. 12: 933-943.
- Viswanathan, K., et al. 2017. Quantitative membrane proteomics reveals a role for tetraspanin enriched microdomains during entry of human cytomegalovirus. PLoS ONE 12: e0187899.
- Xia, T., et al. 2018. Effect of substrate stiffness on hepatocyte migration and cellular Young's modulus. J. Cell. Physiol. 233: 6996-7006.
- Kang, H., et al. 2019. Immunoregulation of macrophages by dynamic ligand presentation via ligand-cation coordination. Nat. Commun. 10: 1696.
- Zhao, M., et al. 2020. The role and potential mechanism of p75NTR in mineralization via *in vivo* p75NTR knockout mice and *in vitro* ectomesenchymal stem cells. Cell Prolif. 53: e12758.
- Mikhailkevich, N., et al. 2021. Response of human macrophages to γ radiation is mediated via expression of endogenous retroviruses. PLoS Pathog. 17: e1009305.

RESEARCH USE

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

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA