SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β1 (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; ltgb1 (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 μg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin β 1 (4B7R) is available conjugated to agarose (sc-9970 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9970 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Integrin β 1 (4B7R) is available conjugated to Alexa Fluor* 405 (sc-9970 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

Integrin β 1 (4B7R) is recommended for detection of Integrin β 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 µg 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 β 1 siRNA (h): sc-35674, Integrin β 1 siRNA (m): sc-35675, Integrin β 1 shRNA Plasmid (h): sc-35674-SH, Integrin β 1 shRNA Plasmid (m): sc-35675-SH, Integrin β 1 shRNA (h) Lentiviral Particles: sc-35674-V and Integrin β 1 shRNA (m) Lentiviral Particles: sc-35675-V.

STORAGE

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

DATA



Integrin $\beta1$ (487R): 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

- 1. Guerrero, C.A., et al. 2000. Integrin $\alpha_v \beta_3$ mediates rotavirus cell entry. Proc. Natl. Acad. Sci. USA 97: 14644-14649.
- 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.
- Mikhalkevich, N., et al. 2021. Response of human macrophages to γ radiation is mediated via expression of endogenous retroviruses. PLoS Pathog. 17: e1009305.
- Iwatate, Y., et al. 2022. Transcriptomic analysis reveals high ITGB1 expression as a predictor for poor prognosis of pancreatic cancer. PLoS ONE 17: e0268630.
- 9. Xu, P., et al. 2023. G9a inhibition promotes the formation of pacemakerlike cells by reducing the enrichment of H3K9me2 in the HCN4 promoter region. Mol. Med. Rep. 27: 21.

RESEARCH USE

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

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Molecular Weight of Integrin β 1: 138 kDa.