SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin α2 (P1E6): sc-53502

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 counter-receptors 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. Integrin α2 is responsible for adhesion of platelets and other cells to collagens. Modulation of collagen and collagenase gene expression force generation and organization of newly synthesized extracellular matrix.

REFERENCES

1. Takada, Y., et al. 1989. The primary structure of the VLA-2/collagen receptor α2 subunit (platelet GPIa): homology to other integrins and the presence of a possible collagen-binding domain. J. Cell Biol. 109: 397-407.
2. Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. Cell 69: 11-25.

CHROMOSOMAL LOCATION

Genetic locus: ITGA2 (human) mapping to 5q11.2.

SOURCE

Integrin α2 (P1E6) is a mouse monoclonal antibody raised against HT-1080 fibrosarcoma cells of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Integrin α2 (P1E6) is recommended for detection of Integrin α2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Integrin α2 siRNA (h): sc-29371, Integrin α2 shRNA Plasmid (h): sc-29371-SH and Integrin α2 shRNA (h) Lentiviral Particles: sc-29371-V.

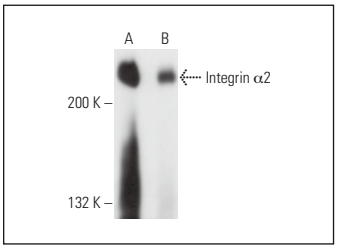
Molecular Weight of Integrin α2: 150 kDa.

Positive Controls: human platelet extract: sc-363773, CCRF-CEM cell lysate: sc-2225 or CCRF-HSB-2 cell lysate: sc-2265.

STORAGE

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

DATA



Integrin α2 (P1E6): sc-53502. Western blot analysis of Integrin α2 expression in human platelet extract (**A**) and human PBL whole cell lysate (**B**) under non-reducing conditions.

SELECT PRODUCT CITATIONS

1. Vincourt, J.B., et al. 2010. C-propeptides of procollagens Iα1 and II that differentially accumulate in enchondromas versus chondrosarcomas regulate tumor cell survival and migration. Cancer Res. 70: 4739-4748.
2. Sung, B.H., et al. 2011. Cortactin controls cell motility and lamellipodial dynamics by regulating ECM secretion. Curr. Biol. 21: 1460-1469.
3. Sato-Nishiuchi, R., et al. 2012. Polydom/SVEP1 is a ligand for Integrin α9β1. J. Biol. Chem. 287: 25615-25630.
4. Bartolomé, R.A., et al. 2014. Cadherin-17 interacts with α2β1 Integrin to regulate cell proliferation and adhesion in colorectal cancer cells causing liver metastasis. Oncogene 33: 1658-1669.
5. Hozumi, K., et al. 2015. Suppression of cell adhesion through specific integrin crosstalk on mixed peptide-polysaccharide matrices. Biomaterials 37: 73-81.
6. Bartolomé, R.A., et al. 2016. VE-cadherin RGD motifs promote metastasis and constitute a potential therapeutic target in melanoma and breast cancers. Oncotarget 8: 215-227.
7. Hozumi, K., et al. 2016. Mixed fibronectin-derived peptides conjugated to a chitosan matrix effectively promotes biological activities through Integrins, α4β1, α5β1, αvβ3, and syndecan. Biores. Open Access 5: 356-366.
8. Bartolomé, R.A., et al. 2021. CDH6-activated αIIbβ3 crosstalks with α2β1 to trigger cellular adhesion and invasion in metastatic ovarian and renal cancers. Mol. Oncol. 15: 1849-1865.
9. Fayad, R., et al. 2021. EFA6B regulates a stop signal for collective invasion in breast cancer. Nat. Commun. 12: 2198.

RESEARCH USE

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