

# Integrin $\alpha 2$ (HAS-4): sc-53353

## BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane  $\alpha$  and  $\beta$  subunits. The 16  $\alpha$  and 8  $\beta$  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. Integrin  $\alpha 2$  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  $\alpha 2$  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.
3. Santoso, S., et al. 1993. The human platelet alloantigens Bra and Brb are associated with a single amino acid polymorphism on glycoprotein Ia (Integrin subunit  $\alpha 2$ ). *J. Clin. Invest.* 92: 2427-2432.
4. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
5. Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.

## CHROMOSOMAL LOCATION

Genetic locus: ITGA2 (human) mapping to 5q11.2; Itga2 (mouse) mapping to 13 D2.2.

## SOURCE

Integrin  $\alpha 2$  (HAS-4) is a mouse monoclonal antibody raised against whole keratinocytes of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin  $\alpha 2$  (HAS-4) is available conjugated to either phycoerythrin (sc-53353 PE) or fluorescein (sc-53353 FITC), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

## STORAGE

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

## APPLICATIONS

Integrin  $\alpha 2$  (HAS-4) is recommended for detection of Integrin  $\alpha 2$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for Integrin  $\alpha 2$  siRNA (h): sc-29371, Integrin  $\alpha 2$  siRNA (m): sc-35683, Integrin  $\alpha 2$  siRNA (r): sc-270406, Integrin  $\alpha 2$  shRNA Plasmid (h): sc-29371-SH, Integrin  $\alpha 2$  shRNA Plasmid (m): sc-35683-SH, Integrin  $\alpha 2$  shRNA Plasmid (r): sc-270406-SH, Integrin  $\alpha 2$  shRNA (h) Lentiviral Particles: sc-29371-V, Integrin  $\alpha 2$  shRNA (m) Lentiviral Particles: sc-35683-V and Integrin  $\alpha 2$  shRNA (r) Lentiviral Particles: sc-270406-V.

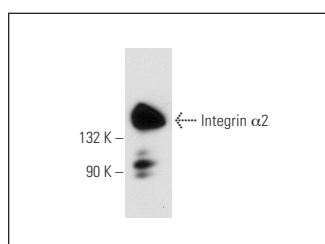
Molecular Weight of Integrin  $\alpha 2$ : 150 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, CCRF-CEM cell lysate: sc-2225 or CCRF-HSB-2 cell lysate: sc-2265.

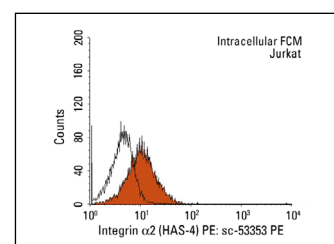
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



Integrin  $\alpha 2$  (HAS-4): sc-53353. Western blot analysis of Integrin  $\alpha 2$  expression in HeLa whole cell lysate.



Integrin  $\alpha 2$  (HAS-4) PE: sc-53353 PE. FCM analysis of Jurkat cells. Black line histogram represents the isotype control, normal mouse IgG<sub>2a</sub>: sc-2867.

## SELECT PRODUCT CITATIONS

1. Gramann, M., et al. 2008. Prominent collagen type VI expression in juvenile angiofibromas. *Histochem. Cell Biol.* 131: 155-164.
2. Ha, M.Y., et al. 2023. In-situ forming injectable GFOGER-conjugated BMSCs-laden hydrogels for osteochondral regeneration. *NPJ Regen. Med.* 8: 2.

## RESEARCH USE

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