

# Integrin $\alpha$ V/ $\beta$ 5 (P1F76): sc-13588

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: ITGAV (human) mapping to 2q32.1, ITGB5 (human) mapping to 3q21.2; Itgav (mouse) mapping to 2 D, Itgb3 (mouse) mapping to 11 E1.

## SOURCE

Integrin  $\alpha$ V/ $\beta$ 5 (P1F76) is a mouse monoclonal antibody raised against UCLA P3 cells of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for inhibition, sc-13588 L, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

Integrin  $\alpha$ V/ $\beta$ 5 (P1F76) is recommended for detection of Integrin  $\alpha$ V and Integrin  $\beta$ 5 of mouse, rat and human origin by immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Integrin  $\alpha$ V: 170 kDa.

Molecular Weight of Integrin  $\beta$ 5: 100 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) 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.

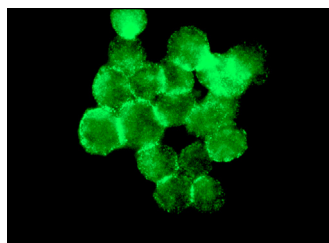
## STORAGE

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

## RESEARCH USE

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

## DATA



Integrin  $\alpha$ V/ $\beta$ 5 (P1F76): sc-13588. Immunofluorescence staining of methanol-fixed THP-1 cells showing membrane and cell junction localization.

## SELECT PRODUCT CITATIONS

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- Liao, Z., et al. 2007. The P2Y<sub>2</sub> nucleotide receptor requires interaction with  $\alpha$ V integrins to access and activate G<sub>12</sub>. J. Cell Sci. 120: 1654-1662.
- Kuadkitkan, A., et al. 2010. Identification and characterization of prohibitin as a receptor protein mediating DENV-2 entry into insect cells. Virology 406: 149-161.
- Zhang, Y., et al. 2011. Isthmin exerts pro-survival and death-promoting effect on endothelial cells through  $\alpha$ V/ $\beta$ 5 integrin depending on its physical state. Cell Death Dis. 2: e1532.
- Chen, M., et al. 2014. Isthmin targets cell-surface GRP78 and triggers apoptosis via induction of mitochondrial dysfunction. Cell Death Differ. 21: 797-810.
- Venugopal, S., et al. 2015. Isthmin is a novel vascular permeability inducer that functions through cell-surface GRP78-mediated Src activation. Cardiovasc. Res. 107: 131-142.
- Liu, D., et al. 2018. Circulating apoptotic bodies maintain mesenchymal stem cell homeostasis and ameliorate osteopenia via transferring multiple cellular factors. Cell Res. 28: 918-933.
- Lin, X., et al. 2021. Omentin-1 modulates macrophage function via integrin receptors  $\alpha$ v $\beta$ 3 and  $\alpha$ v $\beta$ 5 and reverses plaque vulnerability in animal models of atherosclerosis. Front. Cardiovasc. Med. 8: 757926.
- Sahiri, V., et al. 2023. The angiogenesis inhibitor isthmin-1 (ISM1) is overexpressed in experimental models of glomerulopathy and impairs the viability of podocytes. Int. J. Mol. Sci. 24: 2723.

## CONJUGATES

See **Integrin  $\alpha$ V (P2W7): sc-9969** for Integrin  $\alpha$ V antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.