

# p-Integrin $\beta$ 3 (Tyr 747): sc-20234

## 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, but can also bind to soluble ligands or to counterreceptors on adjacent cells, thereby leading to aggregation of cells. Ligands serve to cross-link or cluster integrins by binding to adjacent integrin receptors. 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. GRB2 binds Integrin  $\beta$ 3 only when both Tyr 747 and Tyr 759 are phosphorylated. However, SHC binds the monophosphorylated Integrin  $\beta$ 3 at Tyr 759, suggesting that tyrosine phosphorylation of Integrin  $\beta$ 3 may be important in initiating outside-in signaling cascades by inducing association of signaling components directly with Integrin.

## REFERENCES

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- Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
- Miyamoto, S., Akiyama, S.K. and Yamada, K.M. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
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- Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *BioEssays* 18: 911-917.
- Law, D.A., Nannizzi-Alaimo, L. and Phillips, D.R. 1996. Outside-in integrin signal transduction. Alpha II b beta3-(GP IIb IIIa) tyrosine phosphorylated induced by platelet aggregation. *J. Biol. Chem.* 271: 10811-10815.

## CHROMOSOMAL LOCATION

Genetic locus: ITGB3 (human) mapping to 17q21.32; Itgb3 (mouse) mapping to 11 E1.

## SOURCE

p-Integrin  $\beta$ 3 (Tyr 747) is available as either goat (sc-20234) or rabbit (sc-20234-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Tyr 747 of Integrin  $\beta$ 3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20234 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-Integrin  $\beta$ 3 (Tyr 747) is recommended for detection of Tyr 747 phosphorylated Integrin  $\beta$ 3 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

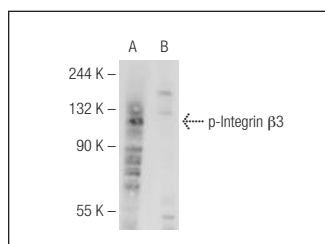
Suitable for use as control antibody for Integrin  $\beta$ 3 siRNA (h): sc-29375, Integrin  $\beta$ 3 siRNA (m): sc-35677, Integrin  $\beta$ 3 shRNA Plasmid (h): sc-29375-SH, Integrin  $\beta$ 3 shRNA Plasmid (m): sc-35677-SH, Integrin  $\beta$ 3 shRNA (h) Lentiviral Particles: sc-29375-V and Integrin  $\beta$ 3 shRNA (m) Lentiviral Particles: sc-35677-V.

Molecular Weight of p-Integrin  $\beta$ 3: 125 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-14268): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-14268-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (range: 1:2000-1:5000); Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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: for goat primary antibody (sc-14268): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-14268-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



p-Integrin  $\beta$ 3 (Tyr 747)-R: sc-20234-R. Western blot analysis of Integrin  $\beta$ 3 phosphorylation in untreated (A) and lambda protein phosphatase treated (B) HEL 92.1.7 whole cell lysates.

## 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.