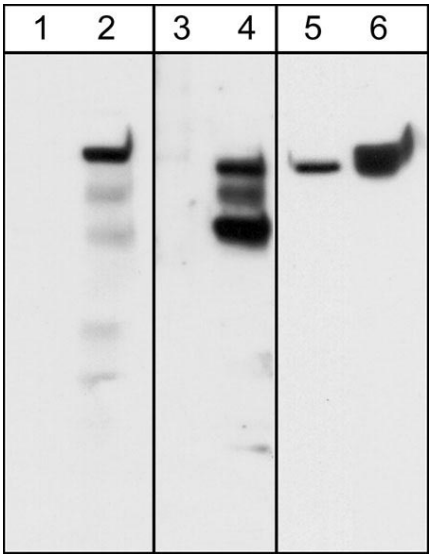
Integrin β4 (Tyr-1494), phospho-specific

Rabbit Polyclonal

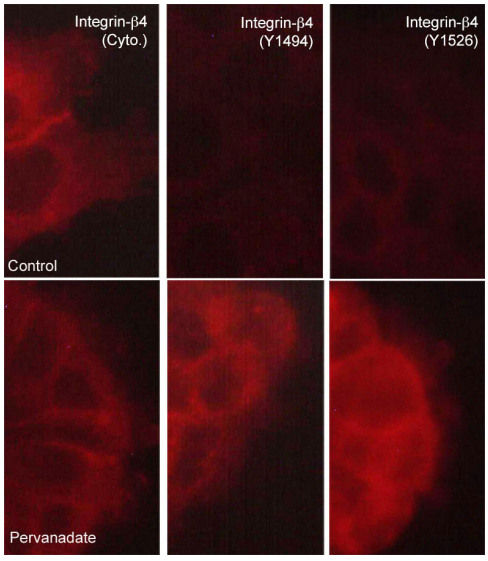
Cat. # IP1281
Size 100 µl

Background

Integrins are cell adhesion molecules that can mediate bidirectional transfer of signals across the plasma membrane. The cytoplasmic domains of integrin family members interact with components of the signal transduction apparatus within cells. Integrin α6β4receptors are found in basement membrane along with laminin-5. These receptors are expressed in epithelial, schwann, endothelial and some immune cells. The cytoplasmic domain of the Integrin β4 subunit recruits the adaptor protein Shc and is required for assembly of hemidesmosomes. Tyrosine phosphorylation of multiple sites within the cytoplasmic domain regulates these cellular events. In particular, tyrosine 1526 interacts with the phosphotyrosine binding domain of Shc and is required for Shc activation. In addition, tyrosine 1494 is required for integrin-mediated IRS-2 phosphorylation and activation of PI3-kinase. More importantly this site is critical for integrin α6β4 increases in carcinoma invasion.



Western blot analysis of A431 cells serum starved overnight (lanes 1, 3, & 5) and treated with pervanadate (1 mM) for 30 min (lanes 2, 4, & 6). The blots were probed with rabbit polyclonal anti-Integrin β4 (Tyr -1526) (lanes 1 & 2) and anti-Integrin β4 (Tyr-1494) (lanes 3 & 4) or with mouse monoclonal anti-Integrin β4 (lanes 5 & 6).



Immunocytochemical labeling of integrin β4 in control (Top) and pervanadate-treated A431 cells (Bottom). The cells were labeled with mouse monoclonal anti-integrin β4 (Cytoplasmic region) (left) or rabbit polyclonals anti-integrin β4 (Tyr-1494) (middle) or anti-integrin β4 (Tyr -1526) (right), then the antibodies were detected using appropriate secondary antibodies conjugated to DyLight® 594.

Background References

Dans, M. et al. (2001). J Biol Chem. 276(2):1494-1502.

Shaw, L.M. (2001). Mol Cell Biol. 21(15):5082-5093.

Product Citations

Dilly, AK et al. (2017) Exp Cell Res. 351(1):1-10.
WB: human A431 cells

Coleman, D.T. et al. (2015) PLoS One. 10(5):e0125399
WB: HCC-1806, MCF-10A

Soung, Y. et al. (2013) BMC Cell Biol. 1:14.
WB: MDA-MB-231, MDA-MB-435

Soung, Y. & Chung, J. (2011) Mol Cancer Ther 10(5):883.
WB: human A431, MDA-MB-231

Yang, X. et al. (2010) Mol Cell Biol. 30(22):5306.
WB: Y1494F mutants

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www.ecmbio.com
info@ecmbio.com

toll-free: 1-800-859-8202
telephone: 859-879-2075

Rev 7/27/2022

Integrin β4 (Tyr-1494), phospho-specific

Rabbit Polyclonal

Cat. # IP1281
Size 100 µl

Immunogen

Uniprot ID: P16144-2

Phospho-Integrin β4 (Tyr-1494) synthetic peptide (coupled to KLH) corresponding to amino acid residues around tyrosine 1494 of human Integrin β4. This peptide sequence is found in all three Integrin β4 isoforms and is highly conserved in rat and mouse Integrin β4.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

Applications

WB	1:2000
ELISA	1:4000
ICC	1:100

Species Reactivity

Hu, Rt, Ms

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.
Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody was cross-adsorbed to phospho-tyrosine coupled to agarose then affinity purified using phospho-Integrin β4 (Tyr-1494) peptide (without carrier). The antibody detects a 200kDa* protein corresponding to the molecular mass of Integrin β4 on SDS-PAGE immunoblots of A431 cells treated with pervanadate, but not in control cells. Similar results were also observed in src-transformed Hct116 cells treated with pervanadate.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.
"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

IP1291	Integrin β4 (Tyr-1526), phospho-specific Rabbit Polyclonal
IM1261	Integrin β4 (Cytoplasmic region) Mouse Monoclonal
IX1285	phospho-Integrin β4 (Tyr-1494) Blocking Peptide
IX1295	phospho-Integrin β4 (Tyr-1526) Blocking Peptide
IK6270	Integrin β4 Phospho-Regulation Antibody Sampler Kit
AK6060	Actin & Tubulin Antibody Sampler Kit

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