

Plectin (C-20): sc-7572

BACKGROUND

Plectin is an abundant cytoskeletal protein that is involved in cytoplasm stabilization. Plectin has been shown to crosslink intermediate filaments to microtubules and microfilaments, and to anchor intermediate filaments to the plasma and nuclear membranes. Plectin binds both Lamin B and vimentin, and this binding is regulated by a variety of protein kinases. Phosphorylation by PKA or PKC results in decreased binding to Lamin B, and phosphorylation by PKA enhances the plectin-vimentin interactions. Plectin is also a substrate for p34cdc2 kinase. Several alternative splice isoforms of plectin are known to exist. Mutations in human plectin are known to cause epidermolysis bullosa simplex with muscular dystrophy (EBS-MD).

CHROMOSOMAL LOCATION

Genetic locus: PLEC1 (human) mapping to 8q24.3; Plect1 (mouse) mapping to 15 D3.

SOURCE

Plectin (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Plectin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7572 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Plectin (C-20) is recommended for detection of Plectin of mouse, rat and 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)], 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 Plectin siRNA (h): sc-29453, Plectin siRNA (m): sc-36276, Plectin shRNA Plasmid (h): sc-29453-SH, Plectin shRNA Plasmid (m): sc-36276-SH, Plectin shRNA (h) Lentiviral Particles: sc-29453-V and Plectin shRNA (m) Lentiviral Particles: sc-36276-V.

Molecular Weight of Plectin: 500 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, rat brain extract: sc-2392 or rat adrenal gland extract: sc-364802.

STORAGE

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

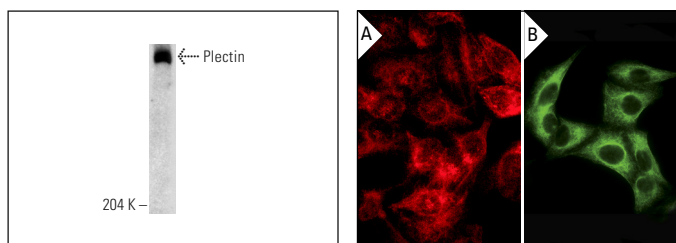
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

RESEARCH USE

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

DATA



Plectin (C-20): sc-7572. Western blot analysis of Plectin expression in ECV304 whole cell lysate.

Plectin (C-20): sc-7572. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (A,B).

SELECT PRODUCT CITATIONS

- Maatta, A., et al. 2001. Gene targeting of envoplakin, a cytoskeletal linker protein and precursor of the epidermal cornified envelope. *Mol. Cell. Biol.* 21: 7047-7053.
- Aho, S. 2004. Plakin proteins are coordinately cleaved during apoptosis but preferentially through the action of different caspases. *Exp. Dermatol.* 13: 700-707.
- Fuchs, P., et al. 2005. Plectin rodless isoform expression and its detection in mouse brain. *Cell. Mol. Neurobiol.* 25: 1141-1150.
- Kreis, S., et al. 2005. The intermediate filament protein vimentin binds specifically to a recombinant integrin $\alpha 2/\beta 1$ cytoplasmic tail complex and co-localizes with native $\alpha 2/\beta 1$ in endothelial cell focal adhesions. *Exp. Cell Res.* 305: 110-121.
- Campbell, G.R., et al. 2010. HIV-1 clade B Tat, but not clade C Tat, increases X4 HIV-1 entry into resting but not activated CD4⁺ T cells. *J. Biol. Chem.* 285: 1681-1691.
- Selcen, D., et al. 2011. Myasthenic syndrome caused by plectinopathy. *Neurology* 76: 327-336.
- Morgan, J.T., et al. 2011. Nesprin-3 regulates endothelial cell morphology, perinuclear cytoskeletal architecture, and flow-induced polarization. *Mol. Biol. Cell* 22: 4324-4334.
- Kanade, S.R. and Eckert, R.L. 2012. Protein arginine methyltransferase 5 (PRMT5) signaling suppresses protein kinase C δ - and p38 δ -dependent signaling and keratinocyte differentiation. *J. Biol. Chem.* 287: 7313-7323.
- Ketema, M., et al. 2015. The rod domain is not essential for the function of plectin in maintaining tissue integrity. *Mol. Biol. Cell* 26: 2402-2017.



Try **Plectin (10F6): sc-33649** or **Plectin (7A8): sc-58835**, our highly recommended monoclonal alternatives to Plectin (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Plectin (10F6): sc-33649**.