

Plectin (7A8): sc-58835

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 p34^{cdc2} 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).

REFERENCES

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2. Liu, C.G., et al. 1996. Human Plectin: organization of the gene, sequence analysis and chromosome localization (8q24). *Proc. Natl. Acad. Sci. USA* 93: 4278-4283.
3. Malecz, N., et al. 1996. Identification of Plectin as a substrate of Cdc2 p34 kinase and mapping of a single phosphorylation site. *J. Biol. Chem.* 271: 8203-8208.
4. Ruhrberg, C. and Watt, F.M. 1997. The Plakin family: versatile organizers of cytoskeletal architecture. *Curr. Opin. Genet. Dev.* 7: 392-397.
5. Andra, K., et al. 1997. Targeted inactivation of Plectin reveals essential function in maintaining the integrity of skin, muscle and heart cytoarchitecture. *Genes Dev.* 11: 3143-3156.
6. Elliott, C.E., et al. 1997. Plectin transcript diversity: identification and tissue distribution of variants with distinct first coding exons and rodless isoforms. *Genomics* 42: 115-125.
7. Lie, A.A., et al. 1998. Plectin in the human central nervous system: predominant expression at pia/glia and endothelia/glia interfaces. *Acta Neuropathol.* 96: 215-221.
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CHROMOSOMAL LOCATION

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

SOURCE

Plectin (7A8) is a mouse monoclonal antibody raised against Plectin purified from glioma C6 cells of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Plectin (7A8) is recommended for detection of an epitope in the rod domain 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

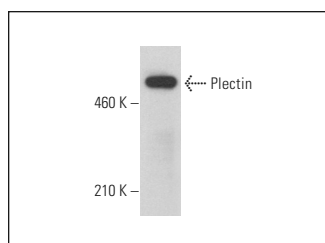
Molecular Weight of Plectin: 500 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, rat brain extract: sc-2392 or rat adrenal gland extract: sc-364802.

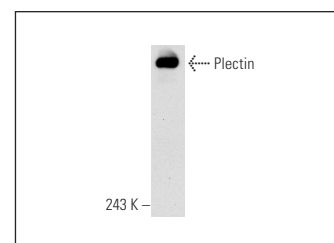
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Plectin (7A8): sc-58835. Western blot analysis of Plectin expression in NIH/3T3 whole cell lysate.



Plectin (7A8): sc-58835. Western blot analysis of Plectin expression in rat brain tissue extract.

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.



See **Plectin (10F6): sc-33649** for Plectin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.