

Plectin (1A2): sc-33650

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).

REFERENCES

1. Foisner, R., Traub, P. and Wiche, G. 1991. Protein kinase A- and protein kinase C-regulated interaction of Plectin with Lamin B and Vimentin. *Proc. Natl. Acad. Sci. USA* 88: 3812-3816
2. Liu, C.G., Maercker, C., Castanon, M.J., Hauptmann, R. and Wiche, G. 1996. Human Plectin: organization of the gene, sequence analysis and chromosome localization (8q24). *Proc. Natl. Acad. Sci. USA* 93: 4278-4283.
3. Malecz, N., Foisner, R., Stadler, C. and Wiche, G. 1996. Identification of Plectin as a substrate of p34Cdc2 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., Lassmann, H., Bittner, R., Shorny, S., Fassler, R., Propst, F. and Wiche, G. 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., Becker, B., Oehler, S., Castanon, M.J., Hauptmann, R. and Wiche, G. 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., Schroder, R., Blumcke, I., Magin, T.M., Wiestler, O.D. and Elger, C.E. 1998. Plectin in the human central nervous system: predominant expression at pia/glia and endothelia/glia interfaces. *Acta Neuropathol.* 96: 215-221.

CHROMOSOMAL LOCATION

Genetic locus: Plec (mouse) mapping to 15 D3.

SOURCE

Plectin (1A2) is a mouse monoclonal antibody raised against full length glioma C6 cell Plectin 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 (1A2) is recommended for detection of Plectin of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:5000), 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 (m): sc-36276, Plectin shRNA Plasmid (m): sc-36276-SH and Plectin shRNA (m) Lentiviral Particles: sc-36276-V.

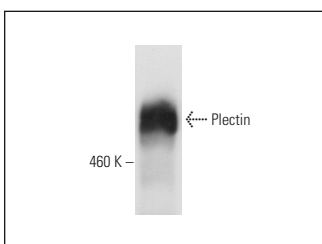
Molecular Weight of Plectin: 500 kDa.

Positive Controls: rat brain extract: sc-2392 or A-10 cell lysate: sc-3806.

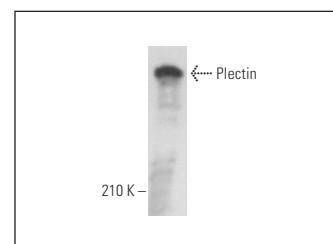
RECOMMENDED SUPPORT REAGENTS

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 (1A2): sc-33650. Western blot analysis of Plectin expression in rat brain tissue extract.



Plectin (1A2): sc-33650. Western blot analysis of Plectin expression in A-10 whole cell lysate.

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.