SANTA CRUZ BIOTECHNOLOGY, INC.

Ataxin-1 (B-3): sc-365343

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The Power to Question

BACKGROUND

Ataxin-1, also designated spinocerebellar ataxia type 1 protein (Sca-1), is differentially expressed and localizes to both the cytoplasm and the nucleus. Mutations in Ataxin-1 are associated with the onset of the autosomal dominant neurodegenerative disorder spinocerebellar ataxia type 1 (SCA-1), which is characterized by progressive neuronal loss in the cerebellum, muscle wasting and ataxia. In Purkinje cells, where SCA-1 is predominantly observed, Ataxin-1 has been shown to directly associate with the Purkinje-enriched leucine-rich acidic nuclear protein (LANP) and the nuclear matrix-associated protein promyelocytic leukemia protein PML. In SCA-1, Ataxin-1 is mutated to encode a polyglutamine protein that forms nuclear aggregates, which interact significantly more strongly with LANP and contribute to the pathogenesis of SCA-1.

REFERENCES

1. Banfi, S., et al. 1994. Identification and characterization of the gene causing type 1 spinocerebellar ataxia. Nat. Genet. 7: 513-520.
2. Burright, E.N., et al. 1995. SCA-1 transgenic mice: a model for neurodegeneration caused by an expanded CAG trinucleotide repeat. Cell 82: 937-948.
3. Burright, E.N., et al. 1997. Identification of a self-association region within the SCA1 gene product, Ataxin-1. Hum. Mol. Genet. 6: 513-518.
4. Skinner, P.J., et al. 1997. Ataxin-1 with an expanded glutamine tract alters nuclear matrix-associated structures. Nature 389: 971-974.
5. Matilla, A., et al. 1997. The cerebellar leucine-rich acidic nuclear protein interacts with Ataxin-1. Nature 389: 974-978.
6. Klement, I.A., et al. 1998. Ataxin-1 nuclear localization and aggregation: role in polyglutamine-induced disease in SCA1 transgenic mice. Cell 95: 41-53.

CHROMOSOMAL LOCATION

Genetic locus: Atxn1 (mouse) mapping to 13 A5.

SOURCE

Ataxin-1 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 25-53 near the N-terminus of Ataxin-1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365343 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Ataxin-1 (B-3) is recommended for detection of Ataxin-1 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

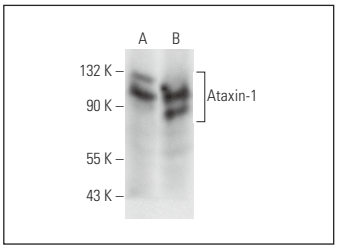
Suitable for use as control antibody for Ataxin-1 siRNA (m): sc-40355, Ataxin-1 shRNA Plasmid (m): sc-40355-SH and Ataxin-1 shRNA (m) Lentiviral Particles: sc-40355-V.

Molecular Weight of Ataxin-1: 98 kDa.

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



Ataxin-1 (B-3): sc-365343. Western blot analysis of Ataxin-1 expression in SK-BR-3 (**A**) and NTERA-2 cl.D1 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Buccitelli, C., et al. 2017. Pan-cancer analysis distinguishes transcriptional changes of aneuploidy from proliferation. Genome Res. 27: 501-511.
2. Spencer, A., et al. 2021. Biomechanical regulation of breast cancer metastasis and progression. Sci. Rep. 11: 9838.

RESEARCH USE

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

PROTOCOLS

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