

TorsinA (D-7): sc-373915

BACKGROUND

A mutation of the DYT1 gene, which codes for TorsinA, has been identified as the cause of one form of autosomal dominantly inherited dystonia. Early-onset torsion dystonia is a movement disorder, characterized by twisting muscle contractures, that begins in childhood. Symptoms are believed to result from altered neuronal communication in the basal ganglia. TorsinA comprises 332 amino acids. TorsinA is widely expressed throughout the mouse central nervous system and is detected in the majority of neurons in nearly all regions. The proteins display cytoplasmic distribution, although in some types of neurons localization is perinuclear. TorsinA often performs chaperone-like functions that assist in the assembly, operation, or disassembly of protein complexes. The gene which encodes TorsinA has high homology to three additional mammalian genes and a nematode gene and distal similarity to the family of heat-shock proteins and the Clp protease family. The gene which encodes TorsinA maps to human chromosome 9q34.11.

REFERENCES

1. Ozelius, L.J., et al. 1997. The early-onset torsion dystonia gene (DYT1) encodes an ATP-binding protein. *Nat. Genet.* 17: 40-48.
2. Neuwald, A.F., et al. 1999. AAA⁺: a class of chaperone-like ATPases associated with the assembly, operation, and disassembly of protein complexes. *Genome Res.* 9: 27-43.
3. Konakova, M. and Pulst, S.M. 2001. Immunocytochemical characterization of torsin proteins in mouse brain. *Brain Res.* 922: 1-8.
4. Walker, R.H., et al. 2002. TorsinA immunoreactivity in brains of patients with DYT1 and non-DYT1 dystonia. *Neurology* 58: 120-124.
5. LocusLink Report (LocusID: 605204). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: TOR1A (human) mapping to 9q34.11; Tor1a (mouse) mapping to 2 B.

SOURCE

TorsinA (D-7) is a mouse monoclonal antibody raised against amino acids 176-260 mapping within an internal region of TorsinA of human 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.

TorsinA (D-7) is available conjugated to agarose (sc-373915 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373915 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373915 PE), fluorescein (sc-373915 FITC), Alexa Fluor® 488 (sc-373915 AF488), Alexa Fluor® 546 (sc-373915 AF546), Alexa Fluor® 594 (sc-373915 AF594) or Alexa Fluor® 647 (sc-373915 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373915 AF680) or Alexa Fluor® 790 (sc-373915 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TorsinA (D-7) is recommended for detection of TorsinA of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (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 TorsinA siRNA (h): sc-42303, TorsinA siRNA (m): sc-154559, TorsinA shRNA Plasmid (h): sc-42303-SH, TorsinA shRNA Plasmid (m): sc-154559-SH, TorsinA shRNA (h) Lentiviral Particles: sc-42303-V and TorsinA shRNA (m) Lentiviral Particles: sc-154559-V.

Molecular Weight of glycosylated TorsinA: 38 kDa.

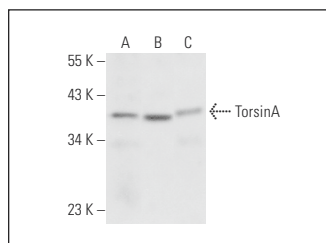
Positive Controls: Hep G2 cell lysate: sc-2227, mouse brain extract: sc-2253 or SH-SY5Y cell lysate: sc-3812.

RECOMMENDED SUPPORT REAGENTS

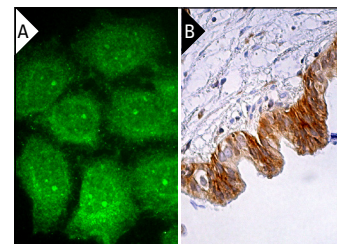
To ensure optimal results, the following support reagents are recommended:

- 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.
- 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TorsinA (D-7): sc-373915. Western blot analysis of TorsinA expression in mouse brain tissue extract (A) and SH-SY5Y (B) and Hep G2 (C) whole cell lysates.



TorsinA (D-7): sc-373915. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells (B).

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.