

Torsin3A (Q-18): sc-131811

BACKGROUND

Torsin3A (TOR3A), also known as ATP-dependent interferon-responsive protein (ADIR), is a 397 amino acid member of the clpA/clpB family of proteins. Localized to the cytoplasm and the endoplasmic reticulum, Torsin3A is most highly expressed in stomach, lymph nodes and salivary glands. Torsin3A contains a hydrophobic N-terminal sequence, an ATP binding domain and eight putative phosphorylation sites. Highly homologous with TorsinA and TorsinB, Torsin3A is thought to be related to the AAA chaperone-like family of ATPases. Members of this family play a role in the assembly, disassembly and operation of a variety of protein complexes, confer increased tolerance to high temperature and promote specific proteolysis. Torsin3A is also referred to as an interferon responsive gene, as interaction with type 1 interferons (IFN- α and IFN- β) cause a 5- to 40-fold increase in Torsin3A mRNA levels. Three isoforms of Torsin3A exist as a result of alternative splicing events, and isoform 2 is expressed exclusively in the placenta.

REFERENCES

1. Augood, S.J., et al. 1999. Distribution of the mRNAs encoding TorsinA and TorsinB in the normal adult human brain. *Ann. Neurol.* 46: 761-769.
2. Dron, M., et al. 2002. Molecular cloning of ADIR, a novel interferon responsive gene encoding a protein related to the torsins. *Genomics* 79: 315-325.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607555. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Oberlin, S.R., et al. 2004. Development and anatomic localization of TorsinA. *Adv. Neurol.* 94: 61-65.
5. Muraro, N.I. and Moffat, K.G. 2006. Downregulation of *torp4a*, encoding the *Drosophila* homologue of TorsinA, results in increased neuronal degeneration. *J. Neurobiol.* 66: 1338-1353.
6. Snider, J. and Houry, W.A. 2006. MoxR AAA⁺ ATPases: a novel family of molecular chaperones? *J. Struct. Biol.* 156: 200-209.
7. van Bergen, C.A., et al. 2007. Multiple myeloma-reactive T cells recognize an activation-induced minor histocompatibility antigen encoded by the ATP-dependent interferon-responsive (ADIR) gene. *Blood* 109: 4089-4096.

CHROMOSOMAL LOCATION

Genetic locus: Tor3a (mouse) mapping to 1 H1.

SOURCE

Torsin3A (Q-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Torsin3A of rat origin.

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.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-131811 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Torsin3A (Q-18) is recommended for detection of Torsin3A of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 Torsin3A siRNA (m): sc-154558, Torsin3A shRNA Plasmid (m): sc-154558-SH and Torsin3A shRNA (m) Lentiviral Particles: sc-154558-V.

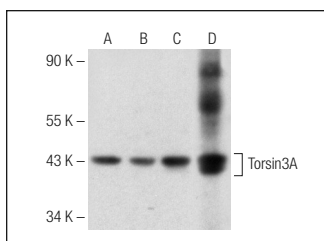
Molecular Weight of Torsin3A: 46 kDa.

Positive Controls: rat ovary extract: sc-2399, mouse lung extract: sc-2390 or RAW 264.7 whole cell lysate: sc-2211.

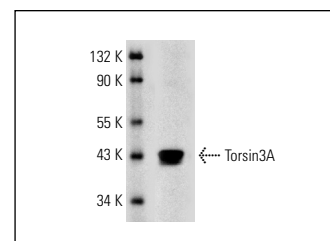
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



Torsin3A (Q-18): sc-131811. Western blot analysis of Torsin3A expression in RAW 264.7 (A), AMJ2-C8 (B) and MH-S (C) whole cell lysates and mouse lung tissue extract (D).



Torsin3A (Q-18): sc-131811. Western blot analysis of Torsin3A expression in rat ovary tissue extract.

PROTOCOLS

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