

Torsin3A siRNA (h): sc-88800

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

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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. Down-regulation of torp4a, encoding the *Drosophila* homologue of TorsinA, results in increased neuronal degeneration. *J. Neurobiol.* 66: 1338-1353.
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CHROMOSOMAL LOCATION

Genetic locus: TOR3A (human) mapping to 1q25.2.

PRODUCT

Torsin3A siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Torsin3A shRNA Plasmid (h): sc-88800-SH and Torsin3A shRNA (h) Lentiviral Particles: sc-88800-V as alternate gene silencing products.

For independent verification of Torsin3A (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-88800A, sc-88800B and sc-88800C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Torsin3A siRNA (h) is recommended for the inhibition of Torsin3A expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Torsin3A (D-9): sc-398045 is recommended as a control antibody for monitoring of Torsin3A gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Torsin3A gene expression knockdown using RT-PCR Primer: Torsin3A (h)-PR: sc-88800-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.