

AGTRAP siRNA (h): sc-78862

BACKGROUND

AGTRAP (Angiotensin II receptor-associated protein), also known as ATRAP, is a transmembrane protein that localizes to the golgi apparatus, the endoplasmic reticulum (ER), endocytotic vesicles and perinuclear vesicular structures. Highly expressed in heart, kidney, pancreas and thyroid, AGTRAP functions as a negative regulator of the Angiotensin II type I receptor (AT1). AGTRAP controls receptor internalization and receptor desensitization events (such as phosphorylation) and, through this control, decreases Angiotensin II signaling, thereby reducing rates of cell proliferation and Angiotensin II-stimulated transcriptional activity. AGTRAP is 159 amino acids in length and is able to bind RACK1 (receptor for activated C kinase 1); an association that is thought to help recruit AGTRAP to AT1. Two isoforms of AGTRAP exist due to alternative splicing events.

REFERENCES

1. Daviet, L., et al. 1999. Cloning and characterization of ATRAP, a novel protein that interacts with the Angiotensin II type 1 receptor. *J. Biol. Chem.* 274: 17058-17062.
2. Cui, T., et al. 2000. ATRAP, novel AT1 receptor associated protein, enhances internalization of AT1 receptor and inhibits vascular smooth muscle cell growth. *Biochem. Biophys. Res. Commun.* 279: 938-941.
3. Wang, W., et al. 2002. Identification and characterization of AGTRAP, a human homolog of murine Angiotensin II Receptor-Associated Protein (Agtrap). *Int. J. Biochem. Cell Biol.* 34: 93-102.
4. Lopez-Illasaca, M., et al. 2003. The Angiotensin II type I receptor-associated protein, ATRAP, is a transmembrane protein and a modulator of Angiotensin II signaling. *Mol. Biol. Cell* 14: 5038-5050.
5. Guo, D.F., et al. 2003. Type 1 Angiotensin II receptor-associated protein ARAP1 binds and recycles the receptor to the plasma membrane. *Biochem. Biophys. Res. Commun.* 310: 1254-1265.
6. Guo, D.F., et al. 2004. A novel Angiotensin II type 1 receptor-associated protein induces cellular hypertrophy in rat vascular smooth muscle and renal proximal tubular cells. *J. Biol. Chem.* 279: 21109-21120.

CHROMOSOMAL LOCATION

Genetic locus: AGTRAP (human) mapping to 1p36.22.

PRODUCT

AGTRAP 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 AGTRAP shRNA Plasmid (h): sc-78862-SH and AGTRAP shRNA (h) Lentiviral Particles: sc-78862-V as alternate gene silencing products.

For independent verification of AGTRAP (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-78862A, sc-78862B and sc-78862C.

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

AGTRAP siRNA (h) is recommended for the inhibition of AGTRAP 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

AGTRAP (F-6): sc-271367 is recommended as a control antibody for monitoring of AGTRAP 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 AGTRAP gene expression knockdown using RT-PCR Primer: AGTRAP (h)-PR: sc-78862-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.