SANTA CRUZ BIOTECHNOLOGY, INC.

VAT1 siRNA (h): sc-93942

BACKGROUND

The storage and release of neurotransmitters in the nerve terminal is regulated by synaptic vesicles. In response to an intracellular increase in calicum levels, synaptic vesicles open and release neurotransmitters across the neuronal synapse, thereby propagating nerve impulses between neurons. VAT1 (vesicle amine transport protein 1) is a 393 amino acid integral membrane protein that is located within cholinergic synaptic vesicles. Expressed in tissues throughout the body, VAT1 belongs to the quinone oxidoreductase subfamily of zinc-containing alcohol dehydrogenase proteins and is thought to play a role in vesicular transport. Defects in the gene encoding VAT1 may be associated with endocrine disorders and tumorigenesis.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: VAT1 (human) mapping to 17q21.31.

PRODUCT

VAT1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see VAT1 shRNA Plasmid (h): sc-93942-SH and VAT1 shRNA (h) Lentiviral Particles: sc-93942-V as alternate gene silencing products.

For independent verification of VAT1 (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-93942A, sc-93942B and sc-93942C.

RESEARCH USE

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

VAT1 siRNA (h) is recommended for the inhibition of VAT1 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 µM in 66 µl. 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

VAT1 (E-7): sc-515705 is recommended as a control antibody for monitoring of VAT1 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-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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor VAT1 gene expression knockdown using RT-PCR Primer: VAT1 (h)-PR: sc-93942-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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