SANTA CRUZ BIOTECHNOLOGY, INC.

cytochrome b561 siRNA (m): sc-142760

BACKGROUND

Cytochrome b561 (CYB561), also known as ferric reductase 2 (FRRS2), is a 251 amino acid multi-pass membrane protein. Specific to neuroendocrine tissues, cytochrome b561 acts as a secretory vesicle-specific electron transport protein. Cytochrome b561 shuttles an electron from ascorbate across vesicle membranes to the electron acceptor semidehydroascorbate in the interior of vesicles. The continuously regenerated ascorbate within the vesicles is the immediate donor to monooxygenases. It has also been suggested that cytochrome b561 has significant ferric reductase activity.

REFERENCES

1. Duong, L.T., et al. 1982. Isolation and properties of cytochrome b561 from bovine adrenal chromaffin granules. J. Biol. Chem. 257: 8561-8564.
2. Srivastava, M., et al. 1994. Human cytochrome b561: a revised hypothesis for conformation in membranes which reconciles sequence and functional information. Biochem. J. 303: 915-921.
3. McBride, O.W., et al. 1994. The human cytochrome b561 gene (CYB561) is located at 17q11-qter. Genomics 21: 662-663.
4. Srivastava, M. 1995. Genomic structure and expression of the human gene encoding cytochrome b561, an integral protein of the chromaffin granule membrane. J. Biol. Chem. 270: 22714-22720.
5. Vargas, J.D., et al. 2003. Stromal cell-derived receptor 2 and cytochrome b561 are functional ferric reductases. Biochim. Biophys. Acta 1651: 116-123.
6. Bashtovyy, D., et al. 2003. Structure prediction for the di-heme cytochrome b561 protein family. Protoplasma 221: 31-40.
7. Fung, M.M., et al. 2008. Genetic variation within adrenergic pathways determines *in vivo* effects of presynaptic stimulation in humans. Circulation 117: 517-525.

CHROMOSOMAL LOCATION

Genetic locus: Cyb561 (mouse) mapping to 11 E1.

PRODUCT

cytochrome b561 siRNA (m) is a pool of 2 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 cytochrome b561 shRNA Plasmid (m): sc-142760-SH and cytochrome b561 shRNA (m) Lentiviral Particles: sc-142760-V as alternate gene silencing products.

For independent verification of cytochrome b561 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142760A and sc-142760B.

PROTOCOLS

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

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

cytochrome b561 siRNA (m) is recommended for the inhibition of cytochrome b561 expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor cytochrome b561 gene expression knockdown using RT-PCR Primer: cytochrome b561 (m)-PR: sc-142760-PR (20 µl). 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.