SANTA CRUZ BIOTECHNOLOGY, INC.

Prealbumin sirRNA (m): sc-39716

BACKGROUND

Prealbumin, also designated transthyretin, is a major thyroid-hormone binding protein involved in transporting thyroxine from the bloodstream to the brain. Prealbumin is located in the cytoplasm and in the vesicles of developing rat brain cells, and is thought to be transported there from the cerebrospinal fluid via endocytosis. Sequence variants of this protein have been identified in amyloid fibrils from patients with familial amyloidotic polyneuropathy (FAP), the most common form of hereditary systemic amyloidosis. Although the biologically active form of Prealbumin is a tetramer, the amyloidogenic intermediate is thought to be a monomeric species. Prealbumin also binds to the retinol carrier protein RBP (retinol-binding protein). The gene encoding Prealbumin maps to human chromosome 18q12.1.

REFERENCES

1. Sparkes, R.S., et al. 1987. Assignment of the Prealbumin (PALB) gene (familial amyloidotic polyneuropathy) to human chromosome region 18q12.1. Hum. Genet. 75: 151-154.
2. Christmanson, L., et al. 1991. The transthyretin cDNA sequence is normal in transthyretin-derived senile systemic amyloidosis. FEBS Lett. 281: 177-180.
3. Almeida, M.R., et al. 1996. Thyroxine binding to transthyretin (TTR) variants—two variants (TTR Pro 55 and TTR Met 111) with a particularly low binding affinity. Eur. J. Endocrinol. 135: 226-230.
4. Malpeli, G., et al. 1996. Retinoid binding protein and the interference with the interaction with transthyretin. Biochem. Biophys. Acta 1294: 48-54.
5. Quintas, A., et al. 1997. The amyloidogenic potential if transthyretin variants correlates with their tendency to aggregate in solution. FEBS Lett. 418: 297-300.
6. Kuchler-Bopp, S., et al. 1998. The presence of transthyretin in rat ependymal cells due to endocytosis and not synthesis. Brain Res. 793: 219-230.
7. Nettleton, E.J., et al. 1998. Protein subunits interactions and structural integrity of amyloidogenic transthyretins: evidence from electrospray mass spectrometry. J. Mol. Biol. 281: 553-564.

CHROMOSOMAL LOCATION

Genetic locus: Ttr (mouse) mapping to 18 A2.

PRODUCT

Prealbumin siRNA (m) 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 Prealbumin shRNA Plasmid (m): sc-39716-SH and Prealbumin shRNA (m) Lentiviral Particles: sc-39716-V as alternate gene silencing products.

For independent verification of Prealbumin (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-39716A, sc-39716B and sc-39716C.

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

Prealbumin siRNA (m) is recommended for the inhibition of Prealbumin 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.

GENE EXPRESSION MONITORING

Prealbumin (E-1): sc-377517 is recommended as a control antibody for monitoring of Prealbumin 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 Prealbumin gene expression knockdown using RT-PCR Primer: Prealbumin (m)-PR: sc-39716-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.