SANTA CRUZ BIOTECHNOLOGY, INC.

Ptx3 siRNA (m): sc-39818

BACKGROUND

Pentraxins are a protein superfamily that is characterized by a cyclic multimeric structure. Ptx3, also known as tumor necrosis factor-stimulated gene sequence-14 (TSG14), is a secreted pattern-recognition receptor that has a non-redundant role in resistance to selected microbial agents. Ptx3 belongs to the family of "long pentraxins", which have C-terminal pentraxin domains and novel amino-terminal domains. Ptx3 binds selected pathogens, including *Aspergillus fumigatus, Pseudomonas aeruginosa and Salmonella typhimurium.* It is synthesized in IgA glomerulonephritis and activates mesangial cells. Secretion of Ptx3 in adipose cells can be induced by TNFα. Ptx3 is also involved in amplification of inflammatory reactions and regulation of innate immunity. The human PTX3 gene maps to chromosome 3q25.32.

REFERENCES

1. Basile, A., et al. 1997. Characterization of the promoter for the human long pentraxin Ptx3. Role of NFκB in tumor necrosis factor-α and interleukin-1β regulation. J. Biol. Chem. 272: 8172-8178.
2. Garlanda, C., et al. 2002. Non-redundant role of the long pentraxin Ptx3 in anti-fungal innate immune response. Nature 420: 182-186.
3. Rolph, M.S., et al. 2002. Production of the long pentraxin Ptx3 in advanced atherosclerotic plaques. Arterioscler. Thromb. Vasc. Biol. 22: e10-e14.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602492. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Bussolati, B., et al. 2003. The long pentraxin Ptx3 is synthesized in IgA glomerulonephritis and activates mesangial cells. J. Immunol.170: 1466-1472.
6. Abderrahim-Ferkoune, A., et al. 2003. Characterization of the long pentraxin Ptx3 as a TNFα-induced, secreted protein of adipose cells. J. Lipid Res. 44: 994-1000.

CHROMOSOMAL LOCATION

Genetic locus: Ptx3 (mouse) mapping to 3 E1.

PRODUCT

Ptx3 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 Ptx3 shRNA Plasmid (m): sc-39818-SH and Ptx3 shRNA (m) Lentiviral Particles: sc-39818-V as alternate gene silencing products.

For independent verification of Ptx3 (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-39818A, sc-39818B and sc-39818C.

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

Ptx3 siRNA (m) is recommended for the inhibition of Ptx3 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

Ptx3 (C-10): sc-373951 is recommended as a control antibody for monitoring of Ptx3 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 Ptx3 gene expression knockdown using RT-PCR Primer: Ptx3 (m)-PR: sc-39818-PR (20 µl, 541 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Shindo, A., et al. 2020. Biphasic roles of pentraxin 3 in cerebrovascular function after white matter stroke. CNS Neurosci. Ther. 27: 60-70.

RESEARCH USE

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