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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

LTBP-2 siRNA (m): sc-43389

BACKGROUND

Transforming growth factor (TGF) β is secreted as a part of an inactive complex that frequently contains latent TGF β -binding protein (LTBP). The LTBP family of proteins exhibit a multidomain structure containing cysteine-rich motifs. LTBP-2 is an integral component of elastin-containing microfibrils and contains 20 EGF-like repeats and four copies of an 8-cysteine repeat. LTBP-2 is synthesized as a protein by human foreskin fibroblasts. LTBP-2 co-localizes with tropoelastin in several tissues, including lung, dermis, epicardium, pericardium and heart valves, throughout rodent development, and in the spleen in the young adult mouse. Pseudoexfoliation (PEX) syndrome is a systemic condition characterized by the pathologic production and accumulation of an abnormal fibrillar extracellular material in many intra- and extraocular tissues. The co-localization of LTBP-1 and LTBP-2 with latent TGF β 1 and with fibrillin-1 on PEX fibrils suggests a possible mechanism for the regulation of TGF β 1 activity in PEX eyes. The LTBP-2 gene maps to human chromosome 14q24.3.

REFERENCES

- Moren, A., et al. 1994. Identification and characterization of LTBP-2, a novel latent transforming growth factor- β -binding protein. *J. Biol. Chem.* 269: 32469-32478.
- Bashir, M.M., et al. 1996. Analysis of the human gene encoding latent transforming growth factor- β -binding protein-2. *Int. J. Biochem. Cell Biol.* 28: 531-542.
- Shiple, J.M., et al. 2000. Developmental expression of latent transforming growth factor β binding protein 2 and its requirement early in mouse development. *Mol. Cell. Biol.* 20: 4879-4887.
- Schlotzer-Schrehardt, U., et al. 2001. Role of transforming growth factor- β 1 and its latent form binding protein in pseudoexfoliation syndrome. *Exp. Eye Res.* 73: 765-780.
- Sinha, S., et al. 2002. Expression of latent TGF- β binding proteins and association with TGF- β 1 and fibrillin-1 following arterial injury. *Cardiovasc. Res.* 53: 971-983.

CHROMOSOMAL LOCATION

Genetic locus: *Ltbp2* (mouse) mapping to 12 D1.

PRODUCT

LTBP-2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LTBP-2 shRNA Plasmid (m): sc-43389-SH and LTBP-2 shRNA (m) Lentiviral Particles: sc-43389-V as alternate gene silencing products.

For independent verification of LTBP-2 (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-43389A, sc-43389B and sc-43389C.

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 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

LTBP-2 siRNA (m) is recommended for the inhibition of LTBP-2 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 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

LTBP-2 (E-10): sc-166199 is recommended as a control antibody for monitoring of LTBP-2 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 LTBP-2 gene expression knockdown using RT-PCR Primer: LTBP-2 (m)-PR: sc-43389-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.