SANTA CRUZ BIOTECHNOLOGY, INC.

EXTL3 siRNA (h): sc-105342

BACKGROUND

EXTL3 (exostosin-like 3), also known as Reg receptor, EXT-related protein 1 (EXTR1) or glucuronyl-galactosyl-proteoglycan 4-α-N-acetylglucosaminyltransferase, is a member of the EXT (hereditary multiple exostosin) gene family of tumor suppressors encoding glycosyltransferases involved in heparan sulfate (HS) biosynthesis. Within this family, the C-terminus is conserved between all members from *C. elegans* to vertebrates. EXTL3 is a ubiquitously expressed, developmentally regulated, single-pass type II membrane protein that localizes to the endoplasmic reticulum membrane. EXTL3 adds N-acetylglucosamine (GlcNAc) to the polysaccharide-protein linkage region and to the growing HS chain suggesting that it plays a role in both the initiation and elongation of HS chains. In addition, EXTL3 may act as a Reg receptor, binding Reg via its N-terminus.

REFERENCES

1. Van Hul, W., et al. 1998. Identification of a third EXT-like gene (EXTL3) belonging to the EXT gene family. Genomics 47: 230-237.
2. Kobayashi, S., et al. 2000. Identification of a receptor for reg (regenerating gene) protein, a pancreatic β-cell regeneration factor. J. Biol. Chem. 275: 10723-10726.
3. Kim, B.T., et al. 2001. Human tumor suppressor EXT gene family members EXTL1 and EXTL3 encode α1,4-N-acetylglucosaminyltransferases that likely are involved in heparan sulfate/heparin biosynthesis. Proc. Natl. Acad. Sci. USA 98: 7176-7181.
4. Mizuno, K., et al. 2001. Overexpression of EXTL3/EXTR1 enhances NFκB activity induced by TNFα. Cell. Signal. 13: 125-130.
5. Osman, N.M., et al. 2003. α1,4-N-acetylglucosaminyltransferase encoding gene EXTL3 expression pattern in mouse adult and developing tissues with special attention to the pancreas. Anat. Embryol. 207: 333-341.
6. Osman, N.M., et al. 2004. Glycosyltransferase encoding gene EXTL3 is differentially expressed in the developing and adult mouse cerebral cortex. Brain Res. Dev. Brain Res. 151: 111-117.

CHROMOSOMAL LOCATION

Genetic locus: EXTL3 (human) mapping to 8p21.1.

PRODUCT

EXTL3 siRNA (h) 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 EXTL3 shRNA Plasmid (h): sc-105342-SH and EXTL3 shRNA (h) Lentiviral Particles: sc-105342-V as alternate gene silencing products.

For independent verification of EXTL3 (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-105342A and sc-105342B.

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

EXTL3 siRNA (h) is recommended for the inhibition of EXTL3 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

EXTL3 (G-5): sc-271986 is recommended as a control antibody for monitoring of EXTL3 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 EXTL3 gene expression knockdown using RT-PCR Primer: EXTL3 (h)-PR: sc-105342-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.