SANTA CRUZ BIOTECHNOLOGY, INC.

Asporin siRNA (m): sc-72569

BACKGROUND

Asporin, also known as periodontal ligament-associated protein 1 (PLAP-1), is a 380 amino acid protein belonging to the small leucine-rich proteoglycan (SLRP) family. Asporin was named to reflect the unique aspartate-rich N-terminus and the overall sequence similarity to Decorin. Asporin has an N-glycosylation site and a O-glycosylation site, but, unlike Decorin and Biglycan, lacks the Ser-Gly dipeptide sequence required for O-linked glycosaminoglycan attachment, which indicates that Asporin is not a proteoglycan. Asporin is a secreted protein that contains 12 leucine-rich (LRR) repeats and has highest levels of expression in aorta, uterus and osteoarthritic articular cartilage. An association between a polymorphism in the N-terminal aspartic acid repeat and osteoarthritis has been found. The same polymorphism in the aspartic acid repeat of Asporin has also been linked to lumbar disc degeneration.

REFERENCES

1. Yamada, S., et al. 2001. Expression profile of active genes in human periodontal ligament and isolation of PLAP-1, a novel SLRP family gene. Gene 275: 279-286.
2. Lorenzo, P., et al. 2001. Identification and characterization of Asporin. A novel member of the leucine-rich repeat protein family closely related to Decorin and Biglycan. J. Biol. Chem. 276: 12201-12211.
3. Henry, S.P., et al. 2001. Expression pattern and gene characterization of Asporin. A newly discovered member of the leucine-rich repeat protein family. J. Biol. Chem. 276: 12212-12221.
4. Stratil, A., et al. 2006. Porcine OGN and ASPN: mapping, polymorphisms and use for quantitative trait loci identification for growth and carcass traits in a Meishan x Piétrain intercross. Anim. Genet. 37: 415-418.
5. Yamada, S., et al. 2006. Regulation of PLAP-1 expression in periodontal ligament cells. J. Dent. Res. 85: 447-451.
6. Jiang, Q., et al. 2006. Replication of the association of the aspartic acid repeat polymorphism in the Asporin gene with knee-osteoarthritis susceptibility in Han Chinese. J. Hum. Genet. 51: 1068-1072.

CHROMOSOMAL LOCATION

Genetic locus: Aspn (mouse) mapping to 13 A5.

PRODUCT

Asporin 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 Asporin shRNA Plasmid (m): sc-72569-SH and Asporin shRNA (m) Lentiviral Particles: sc-72569-V as alternate gene silencing products.

For independent verification of Asporin (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-72569A, sc-72569B and sc-72569C.

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

Asporin siRNA (m) is recommended for the inhibition of Asporin 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 Asporin gene expression knockdown using RT-PCR Primer: Asporin (m)-PR: sc-72569-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.