SANTA CRUZ BIOTECHNOLOGY, INC.

ENGase siRNA (h): sc-77375

BACKGROUND

Endo-β-N-acetylglucosaminidase (ENGase) is a primarily cytoplasmic protein. The gene encoding for ENGase maps to chromosome 17q25.3. ENGase is an important enzyme involved in free oligosaccharide processing in the cytosol. This activity has been widely described in animal cells. Together with a cytosolic-mannosidase, ENGase have been found to be important for the transferring of free oligosaccharides into the lysosome, where they are further degraded. ENGase is present in the synovial fluid of rheumatoid arthritis patients, which may contribute to glycosaminoglycan depletion from cartilage. This depletion contributes to the invasion of synovial cells and their attachment to cartilage in rheumatoid arthritis.

REFERENCES

1. Tachibana, Y., Yamashita, K., Kawaguchi, M., Arashima, S. and Kobata, A. 1981. Digestion of asparagine-linked oligosaccharides by endo-β-N-acetylglucosaminidase in the human skin fibroblasts obtained from fucosidosis patients. J. Biochem. 90: 1291-1296.
2. Suzuki, T., Yano, K., Sugimoto, S., Kitajima, K., Lennarz, W.J., Inoue, S., Inoue, Y. and Emori, Y. 2002. Endo-β-N-acetylglucosaminidase, an enzyme involved in processing of free oligosaccharides in the cytosol. Proc. Natl. Acad. Sci. USA 99: 9691-9696.
3. Ortutay, Z., Polgar, A., Gomor, B., Geher, P., Lakatos, T., Glant, T.T., Gay, R.E., Gay, S., Pallinger, E., Farkas, C., Farkas, E., Tothfalusi, L., Kocsis, K., Falus, A. and Buzas, E.I. 2003. Synovial fluid exoglycosidases are predictors of rheumatoid arthritis and are effective in cartilage glycosaminoglycan depletion. Arthritis Rheum. 48: 2163-2172.
4. http://harvester.embl.de/harvester/Q8NF/Q8NFI3.htm

CHROMOSOMAL LOCATION

Genetic locus: ENGASE (human) mapping to 17q25.3.

PRODUCT

ENGase siRNA (h) 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 ENGase shRNA Plasmid (h): sc-77375-SH and ENGase shRNA (h) Lentiviral Particles: sc-77375-V as alternate gene silencing products.

For independent verification of ENGase (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-77375A, sc-77375B and sc-77375C.

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

ENGase siRNA (h) is recommended for the inhibition of ENGase 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ENGase gene expression knockdown using RT-PCR Primer: ENGase (h)-PR: sc-77375-PR (20 µl). 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.