SANTA CRUZ BIOTECHNOLOGY, INC.

HRASLS5 siRNA (m): sc-146078

BACKGROUND

Phospholipase A_2s (PLA_2s) constitute a family of esterases that hydrolyze the sn-2-acyl ester bond in glycerophospholipid molecules. These enzymes are generally calcium-dependent and have been found both intra- and extracellularly. By hydrolyzing the sn-2 bond in glycerophospholipids, PLA_2s release fatty acids. One such fatty acid, arachidonic acid, generates substrates for the initiation of the arachidonic acid cascade that produces various eicosanoids, many of which are potent mediators of inflammation. HRASLS5 (HRAS-like suppressor 5), also known as HRLP5 (H-rev107-like protein 5), RLP1 or iNAT, is a 279 amino acid protein that belongs to the H-rev107 family. Mainly present in the cytosolic fraction, HRASLS5 is expressed primarily in testis, and may play a role in testis cell growth and differentiation. The gene encoding HRASLS5 maps to human chromosome 11q12.3 and mouse chromosome 19 A.

REFERENCES

1. Johnson, L.K., Frank, S., Vades, P., Pruzanski, W., Lusis, A.J. and Seilhamer, J.J. 1990. Localization and evolution of two human phospholipase A_2 genes and two related genetic elements. Adv. Exp. Med. Biol. 275: 17-34.
2. Lambeau, G. and Lazdunski, M. 1999. Receptors for a growing family of secreted phospholipases A_2. Trends Pharmacol. Sci. 20: 162-170.
3. Jin, X.H., Okamoto, Y., Morishita, J., Tsuboi, K., Tonai, T. and Ueda, N. 2007. Discovery and characterization of a Ca^{2+}-independent phosphatidylethanolamine N-acyltransferase generating the anandamide precursor and its congeners. J. Biol. Chem. 282: 3614-3623.
4. Yamano, Y., Asano, A., Ohyama, K., Ohta, M., Nishio, R. and Morishima, I. 2008. Expression of the Ha-ras suppressor family member 5 gene in the maturing rat testis. Biosci. Biotechnol. Biochem. 72: 1360-1363.
5. Jin, X.H., Uyama, T., Wang, J., Okamoto, Y., Tonai, T. and Ueda, N. 2009. cDNA cloning and characterization of human and mouse Ca^{2+}-independent phosphatidylethanolamine N-acyltransferases. Biochim. Biophys. Acta 1791: 32-38.
6. Khan, M.J., Graugnard, D.E. and Loor, J.J. 2011. Endocannabinoid system and proopiomelanocortin gene expression in peripartal bovine liver in response to prepartal plane of nutrition. J. Anim. Physiol. Anim. Nutr. 96: 907-919.

CHROMOSOMAL LOCATION

Genetic locus: Hrasls5 (mouse) mapping to 19 A.

PRODUCT

HRASLS5 siRNA (m) 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 HRASLS5 shRNA Plasmid (m): sc-146078-SH and HRASLS5 shRNA (m) Lentiviral Particles: sc-146078-V as alternate gene silencing products.

For independent verification of HRASLS5 (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-146078A and sc-146078B.

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

HRASLS5 siRNA (m) is recommended for the inhibition of HRASLS5 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 HRASLS5 gene expression knockdown using RT-PCR Primer: HRASLS5 (m)-PR: sc-146078-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 for detailed protocols and support products.