SANTA CRUZ BIOTECHNOLOGY, INC.

FADS6 siRNA (m): sc-145005

BACKGROUND

Members of the fatty acid desaturase (FADS) family regulate the desaturation of fatty acids by introducing double bonds between defined carbons of fatty acyl chains, thereby playing an essential role in the lipid metabolic pathway. Members of this family share N-terminal cytochrome b5-like domains, C-terminal multiple membrane-spanning desaturase regions and three histidine box motifs. FADS6 (fatty acid desaturase 6), also known as FP18279, is a 356 amino acid multi-pass membrane protein that belongs to the fatty acid desaturase family. Existing as two alternatively spliced isoforms, FADS6 participates in lipid and fatty acid metabolism. The gene encoding FADS6 maps to human chromosome 17q25.1 and mouse chromosome 11 E2.

REFERENCES

1. Cadena, D.L., et al. 1997. The product of the MLD gene is a member of the membrane fatty acid desaturase family: overexpression of MLD inhibits EGF receptor biosynthesis. Biochemistry 36: 6960-6967.
2. Marquardt, A., et al. 2000. cDNA cloning, genomic structure, and chromosomal localization of three members of the human fatty acid desaturase family. Genomics 66: 175-183.
3. Ternes, P., et al. 2002. Identification and characterization of a sphingolipid δ4-desaturase family. J. Biol. Chem. 277: 25512-25518.
4. Martinelli, N., et al. 2008. FADS genotypes and desaturase activity estimated by the ratio of arachidonic acid to linoleic acid are associated with inflammation and coronary artery disease. Am. J. Clin. Nutr. 88: 941-949.

CHROMOSOMAL LOCATION

Genetic locus: Fads6 (mouse) mapping to 11 E2.

PRODUCT

FADS6 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 FADS6 shRNA Plasmid (m): sc-145005-SH and FADS6 shRNA (m) Lentiviral Particles: sc-145005-V as alternate gene silencing products.

For independent verification of FADS6 (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-145005A and sc-145005B.

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

FADS6 siRNA (m) is recommended for the inhibition of FADS6 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 FADS6 gene expression knockdown using RT-PCR Primer: FADS6 (m)-PR: sc-145005-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Villamil-Ortiz, J.G. and Cardona-Gómez, G.P. 2018. cPLA2 and desaturases underlie the tau hyperphosphorylation offset induced by BACE knock-down in neuronal primary cultures. Biochim. Biophys. Acta Mol. Basis Dis. 1864: 3696-3707.

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.