



FADS3 siRNA (m): sc-145004

BACKGROUND

FADS3 (fatty acid desaturase 3), also known as cytochrome b5-related protein (CYB5RP), is a 445 amino acid protein belonging to the fatty acid desaturase family. Fatty acid desaturase proteins introduce double bonds between defined carbons of the fatty acyl chain to cause unsaturation of fatty acids. Fatty acid desaturase family members are fusion products composed of two conserved histidine motifs; an N-terminal cytochrome b5 heme-binding domain and a C-terminal multiple membrane-spanning desaturase portion. The cytochrome b5 heme-binding domain may contain an active site and may be responsible for metal ion binding. FADS3 is a multi-pass membrane protein localized to the endoplasmic reticulum and can be found in heart, uterus, lung, brainstem and liver.

REFERENCES

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3. Nakamura, M.T. and Nara, T.Y. 2004. Structure, function, and dietary regulation of $\delta 6$, $\delta 5$, and $\delta 9$ desaturases. *Annu. Rev. Nutr.* 24: 345-376.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 606150. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Taylor, T.D., Noguchi, H., Totoki, Y., Toyoda, A., Kuroki, Y., Dewar, K., Lloyd, C., Itoh, T., Takeda, T., Kim, D.W., She, X., Barlow, K.F., Bloom, T., Bruford, E., Chang, J.L., Cuomo, C.A., Eichler, E., FitzGerald, M.G., Jaffe, D.B., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. *Nature* 440: 497-500.

CHROMOSOMAL LOCATION

Genetic locus: Fads3 (mouse) mapping to 19 A.

PRODUCT

FADS3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FADS3 shRNA Plasmid (m): sc-145004-SH and FADS3 shRNA (m) Lentiviral Particles: sc-145004-V as alternate gene silencing products.

For independent verification of FADS3 (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-145004A, sc-145004B and sc-145004C.

PROTOCOLS

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

FADS3 siRNA (m) is recommended for the inhibition of FADS3 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 μ M in 66 μ l. 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 FADS3 gene expression knockdown using RT-PCR Primer: FADS3 (m)-PR: sc-145004-PR (20 μ l). 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.