SANTA CRUZ BIOTECHNOLOGY, INC.

MEDA-4 siRNA (h): sc-105148

BACKGROUND

MEDA-4 (mesenteric estrogen-dependent adipose 4), also known as Medag or Awms3 (activated in W/Wv mouse stomach 3), is a 303 amino acid protein that may be involved in the promotion of adipocyte differentiation, lipid accumulation, and glucose uptake in mature adipocytes. Localizing to the cytoplasm, MEDA-4 is highly expressed in white adipose tissue, as well as heart, brain and pancreas. MEDA-4 is an estrogen dependent adipose that is encoded by a gene mapping to human chromosome 13q12.3 and mouse chromosome 5 G3. Comprising nearly 4% of human DNA, chromosome 13 contains around 114 million base pairs and 400 genes. Key tumor suppressor genes on chromosome 13 include the breast cancer susceptibility gene, BRCA2, and the RB1 (retinoblastoma) gene. The gene SLITRK1, which is associated with Tourette syndrome, is on chromosome 13. Trisomy 13, also known as Patau syndrome, is quite deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Bai, F., et al. 1999. Glutathione and N-acetylcysteine conjugates of α-methyldopamine produce serotonergic neurotoxicity: possible role in methylenedioxyamphetamine-mediated neurotoxicity. Chem. Res. Toxicol. 12: 1150-1157.
2. Deng, H., et al. 2006. Examination of the SLITRK1 gene in Caucasian patients with Tourette syndrome. Acta Neurol. Scand. 114: 400-402.
3. Hsu, H.F. and Hou, J.W. 2007. Variable expressivity in Patau syndrome is not all related to trisomy 13 mosaicism. Am. J. Med. Genet. A 143A: 1739-1748.
4. Hall, H.E., et al. 2007. The origin of trisomy 13. Am. J. Med. Genet. A 143A: 2242-2248.
5. Thorslund, T. and West, S.C. 2007. BRCA2: a universal recombinase regulator. Oncogene 26: 7720-7730.
6. Kanber, D., et al. 2009. The human retinoblastoma gene is imprinted. PLoS Genet. 5: e1000790.

CHROMOSOMAL LOCATION

Genetic locus: MEDAG (human) mapping to 13q12.3.

PRODUCT

MEDA-4 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 MEDA-4 shRNA Plasmid (h): sc-105148-SH and MEDA-4 shRNA (h) Lentiviral Particles: sc-105148-V as alternate gene silencing products.

For independent verification of MEDA-4 (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-105148A, sc-105148B and sc-105148C.

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

MEDA-4 siRNA (h) is recommended for the inhibition of MEDA-4 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 MEDA-4 gene expression knockdown using RT-PCR Primer: MEDA-4 (h)-PR: sc-105148-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.