

MRAP siRNA (m): sc-149548

BACKGROUND

MRAP (melanocortin 2 receptor accessory protein), also known as B27, C21orf61 or FALP, is a 172 amino acid protein that localizes to both the cell membrane and the cytoplasm. Expressed in testis, ovary, lymph node, thyroid and fat tissue, MRAP is involved in intracellular trafficking pathways in adipocyte cells and is required for the proper processing and function of MC2-R. Defects in the gene encoding MRAP are the cause of glucocorticoid deficiency type 2 (GCCD2), an autosomal recessive disorder that is characterized by progressive primary adrenal insufficiency due to congenital insensitivity or resistance to adrenocorticotropin. MRAP is expressed as four alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 21.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609196. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Metherell, L.A., et al. 2005. Mutations in MRAP, encoding a new interacting partner of the ACTH receptor, cause familial glucocorticoid deficiency type 2. *Nat. Genet.* 37: 166-170.
3. Modan-Moses, D., et al. 2006. Unusual presentation of familial glucocorticoid deficiency with a novel MRAP mutation. *J. Clin. Endocrinol. Metab.* 91: 3713-3717.
4. Rumié, H., et al. 2007. Clinical and biological phenotype of a patient with familial glucocorticoid deficiency type 2 caused by a mutation of melanocortin 2 receptor accessory protein. *Eur. J. Endocrinol.* 157: 539-542.
5. Sebag, J.A. and Hinkle, P.M. 2007. Melanocortin-2 receptor accessory protein MRAP forms antiparallel homodimers. *Proc. Natl. Acad. Sci. USA* 104: 20244-20249.

CHROMOSOMAL LOCATION

Genetic locus: Mrap (mouse) mapping to 16 C3.3.

PRODUCT

MRAP siRNA (m) is a target-specific 19-25 nt siRNA 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 MRAP shRNA Plasmid (m): sc-149548-SH and MRAP shRNA (m) Lentiviral Particles: sc-149548-V as alternate gene silencing 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

MRAP siRNA (m) is recommended for the inhibition of MRAP 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 MRAP gene expression knockdown using RT-PCR Primer: MRAP (m)-PR: sc-149548-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.

PROTOCOLS

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