

Magmas siRNA (h): sc-93268

BACKGROUND

Magmas, also known as TIMM16, is a 125 amino acid protein that localizes to the inner mitochondrial membrane and belongs to the TIM16/PAM16 family. Expressed ubiquitously, Magmas functions as a probable component of the PAM complex, a multi-protein structure that is required for the ATP-dependent translocation of peptide-containing proteins from the inner membrane membrane into the mitochondrial matrix. Specifically, Magmas may be necessary for the regulation of the ATP-dependent nature of the PAM complex. The gene encoding Magmas maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Gilbert, F. 1999. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 16. Genet. Test.* 3: 243-254.
2. Lai, C.H., et al. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. *Genome Res.* 10: 703-713.
3. Jubinsky, P.T., et al. 2001. Identification and characterization of Magmas, a novel mitochondria-associated protein involved in granulocyte-macrophage colony-stimulating factor signal transduction. *Exp. Hematol.* 29: 1392-1402.
4. Jubinsky, P.T., et al. 2005. Magmas expression in neoplastic human prostate. *J. Mol. Histol.* 36: 69-75.
5. Rakha, E.A., et al. 2006. Chromosome 16 tumor-suppressor genes in breast cancer. *Genes Chromosomes Cancer* 45: 527-535.
6. Gervasini, C., et al. 2007. High frequency of mosaic CREBBP deletions in Rubinstein-Taybi syndrome patients and mapping of somatic and germ-line breakpoints. *Genomics* 90: 567-573.

CHROMOSOMAL LOCATION

Genetic locus: PAM16 (human) mapping to 16p13.3.

PRODUCT

Magmas siRNA (h) 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 Magmas shRNA Plasmid (h): sc-93268-SH and Magmas shRNA (h) Lentiviral Particles: sc-93268-V as alternate gene silencing products.

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

Magmas siRNA (h) is recommended for the inhibition of Magmas 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 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 Magmas gene expression knockdown using RT-PCR Primer: Magmas (h)-PR: sc-93268-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.