



oogenesis 1 siRNA (m): sc-151301

BACKGROUND

Oogenesis 1 (Oog1) is a 496 amino acid protein that belongs to an oogenesis specific gene family, and contains one leucine zipper domain and one leucine-rich (LRR) repeat. While most of the genes in the oogenesis specific gene family are expressed throughout oogenesis and folliculogenesis, oogenesis 1 expression is decreased at the preantral stage in gonadotropin-induced cells. As a potential Ras-binding protein, oogenesis 1 interacts with Ras in a GTP-dependent manner. The gene that encodes oogenesis 1 maps to mouse chromosome 12 D2. Made up of approximately 121 million base pairs, mouse chromosome 12 consists of nearly 1,500 genes. Osteopetrosis, an autosomal recessive disease characterized by excessive accumulations of bone without marrow cavities, increases in bone matrix formation and concentrations of parafollicular cells of the thyroid, is associated with variant waddler (Va) on mouse chromosome 12.

REFERENCES

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3. Dade, S., et al. 2003. Identification of a new expanding family of genes characterized by atypical LRR domains. Localization of a cluster preferentially expressed in oocyte. *FEBS Lett.* 555: 533-538.
4. Vallee, M., et al. 2005. Identification of novel and known oocyte-specific genes using complementary DNA subtraction and microarray analysis in three different species. *Biol. Reprod.* 73: 63-71.
5. Tsukamoto, S., et al. 2006. Oog1, an oocyte-specific protein, interacts with Ras and Ras-signaling proteins during early embryogenesis. *Biochem. Biophys. Res. Commun.* 343: 1105-1112.
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7. Monti, M., et al. 2009. Oogenesis specific genes (Nobox, Oct4, Bmp15, Gdf9, Oogenesis1 and Oogenesis2) are differentially expressed during natural and gonadotropin-induced mouse follicular development. *Mol. Reprod. Dev.* 76: 994-1003.

CHROMOSOMAL LOCATION

Genetic locus: Oog1 (mouse) mapping to 12 D2.

PRODUCT

oogenesis 1 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 oogenesis 1 shRNA Plasmid (m): sc-151301-SH and oogenesis 1 shRNA (m) Lentiviral Particles: sc-151301-V as alternate gene silencing products.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

oogenesis 1 siRNA (m) is recommended for the inhibition of oogenesis 1 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 oogenesis 1 gene expression knockdown using RT-PCR Primer: oogenesis 1 (m)-PR: sc-151301-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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