SANTA CRUZ BIOTECHNOLOGY, INC.

FIGLA siRNA (h): sc-94652

BACKGROUND

Ovarian folliculogenesis is an intricate process involving interactions between germ and somatic cells in mammalians. FIGLA (folliculogenesis specific basic helix-loop-helix), also known as POF6, BHLHC8 or FIGALPHA, is a 219 amino acid nuclear protein expressed in fetal ovary and germ cells. FIGLA contains one basic helix-loop-helix (bHLH) domain and heterodimerizes with E12, a transcription factor that influences gene expression during B cell maturation. Acting as a germline specific transcription factor and a key player of ovarian folliculogenesis, FIGLA regulates the expression of multiple oocyte-specific genes that are required for fertilization and early embryonic survival. Mutations in the gene encoding FIGLA may be the cause of premature ovarian failure (POF), a genetically heterogenous disorder that leads to hypergonadotropic ovarian failure and infertility. POF is characterized by amenorrhea, hypoestrogenism and elevated serum gonadotropin concentrations. FIGLA inhibits the expression of male germ cell specific genes during oogenesis.

REFERENCES

1. Rajkovic, A. and Matzuk, M.M. 2002. Functional analysis of oocyte-expressed genes using transgenic models. Mol. Cell. Endocrinol. 187: 5-9.
2. Huntriss, J., et al. 2002. Isolation, characterization and expression of the human factor in the germline α (FIGLA) gene in ovarian follicles and oocytes. Mol. Hum. Reprod. 8: 1087-1095.
3. Bayne, R.A., et al. 2004. Increased expression of the FIGLA transcription factor is associated with primordial follicle formation in the human fetal ovary. Mol. Hum. Reprod. 10: 373-381.
4. Choi, Y. and Rajkovic, A. 2006. Genetics of early mammalian folliculogenesis. Cell. Mol. Life Sci. 63: 579-590.
5. Joshi, S., et al. 2007. Ovarian gene expression in the absence of FIGLA, an oocyte-specific transcription factor. BMC Dev. Biol. 7: 67.
6. Suzumori, N., et al. 2007. Candidate genes for premature ovarian failure. Curr. Med. Chem. 14: 353-357.
7. Zheng, P. and Dean, J. 2007. Oocyte-specific genes affect folliculogenesis, fertilization, and early development. Semin. Reprod. Med. 25: 243-251.
8. Zhao, H., et al. 2008. Transcription factor FIGLA is mutated in patients with premature ovarian failure. Am. J. Hum. Genet. 82: 1342-1348.

CHROMOSOMAL LOCATION

Genetic locus: FIGLA (human) mapping to 2p13.3.

PRODUCT

FIGLA 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 FIGLA shRNA Plasmid (h): sc-94652-SH and FIGLA shRNA (h) Lentiviral Particles: sc-94652-V as alternate gene silencing products.

For independent verification of FIGLA (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-94652A, sc-94652B and sc-94652C.

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

FIGLA siRNA (h) is recommended for the inhibition of FIGLA 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 FIGLA gene expression knockdown using RT-PCR Primer: FIGLA (h)-PR: sc-94652-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.