SANTA CRUZ BIOTECHNOLOGY, INC.

FIGLA (E-12): sc-161048

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., Gosden, R., Hinkins, M., Oliver, B., Miller, D., Rutherford, A.J. and Picton, H.M. 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., Martins da Silva, S.J. and Anderson, R.A. 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., Davies, H., Sims, L.P., Levy, S.E. and Dean, J. 2007. Ovarian gene expression in the absence of FIGLA, an oocyte-specific transcription factor. BMC Dev. Biol. 7: 67.
6. Suzumori, N., Pangas, S.A. and Rajkovic, A. 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., Chen, Z.J., Qin, Y., Shi, Y., Wang, S., Choi, Y., Simpson, J.L. and Rajkovic, A. 2008. Transcription factor FIGLA is mutated in patients with premature ovarian failure. Am. J. Hum. Genet. 82: 1342-1348.
9. van Dooren, M.F., Bertoli-Avellab, A.M. and Oldenburg, R.A. 2009. Premature ovarian failure and gene polymorphisms. Curr. Opin. Obstet. Gynecol. 21: 313-317.

CHROMOSOMAL LOCATION

Genetic locus: FIGLA (human) mapping to 2p13.3; Figla (mouse) mapping to 6 C3.

SOURCE

FIGLA (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FIGLA of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161048 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-161048 X, 200 µg/0.1 ml.

APPLICATIONS

FIGLA (E-12) is recommended for detection of FIGLA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

FIGLA (E-12) is also recommended for detection of FIGLA in additional species, including equine and porcine.

Suitable for use as control antibody for FIGLA siRNA (h): sc-94652, FIGLA siRNA (m): sc-145180, FIGLA shRNA Plasmid (h): sc-94652-SH, FIGLA shRNA Plasmid (m): sc-145180-SH, FIGLA shRNA (h) Lentiviral Particles: sc-94652-V and FIGLA shRNA (m) Lentiviral Particles: sc-145180-V.

FIGLA (E-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of FIGLA: 24 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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