SANTA CRUZ BIOTECHNOLOGY, INC.

ZAR1 (P-16): sc-55998

BACKGROUND

Oocytes are female gametes that are critical in post-ovulation events such as ovarian folliculogenesis, fertilization and embryogenesis. ZAR1 (zygote arrest 1) is an oocyte-specific maternal effect factor that is localized to the cytoplasm and is expressed in ovary and testes. Essential in the oocyte-to-embryo transition, ZAR1 is an evolutionary conserved protein that is responsible for female fertility and may play a role in transcriptional regulation. In mice, null expression of ZAR1 results in infertility, suggesting that ZAR1 plays a key role in both the initiation of embryonic development and in fertility control in mammals. ZAR1 is 424 amino acids in length and, like its mouse homolog, has an atypical PHD motif at its C-terminus.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607520. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Wu, X., Viveiros, M.M., Eppig, J.J., Bai, Y., Fitzpatrick, S.L. and Matzuk, M.M. 2003. Zygote arrest 1 (ZAR1) is a novel maternal effect gene critical for the oocyte-to-embryo transition. Nat. Genet. 33: 187-191.
3. Wu, X., Wang, P., Brown, C.A., Zilinski, C.A. and Matzuk, M.M. 2003. Zygote arrest 1 (ZAR1) is an evolutionarily conserved gene expressed in vertebrate ovaries. Biol. Reprod. 69: 861-867.
4. Pennetier, S., Uzbekova, S., Perreau, C., Papillier, P., Mermillod, P. and Dalbiès-Tran, R. 2004. Spatio-temporal expression of the germ cell marker genes MATER, ZAR1, GDF-9, BMP-15, and VASA in adult bovine tissues, oocytes, and preimplantation embryos. Biol. Reprod. 71: 1359-1366.
5. Brevini, T.A., Cillo, F., Colleoni, S., Lazzari, G., Galli, C. and Gandolfi, F. 2004. Expression pattern of the maternal factor zygote arrest 1 (ZAR1) in bovine tissues, oocytes, and embryos. Mol. Reprod. Dev. 69: 375-380.
6. Uzbekova, S., Roy-Sabau, M., Dalbiès-Tran, R., Perreau, C., Papillier, P., Mompart, F., Thelie, A., Pennetier, S., Cognie, J., Cadoret, V., Royere, D., Monget, P. and Mermillod, P. 2006. Zygote arrest 1 gene in pig, cattle and human: evidence of different transcript variants in male and female germ cells. Reprod. Biol. Endocrinol. 4: 12.
7. Zheng, P. and Dean, J. 2007. Oocyte-specific genes affect folliculogenesis, fertilization, and early development. Semin. Reprod. Med. 25: 243-251.

CHROMOSOMAL LOCATION

Genetic locus: ZAR1 (human) mapping to 4p11; Zar1 (mouse) mapping to 5 C3.2.

STORAGE

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

PROTOCOLS

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

SOURCE

ZAR1 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZAR1 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-55998 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ZAR1 (P-16) is recommended for detection of ZAR1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

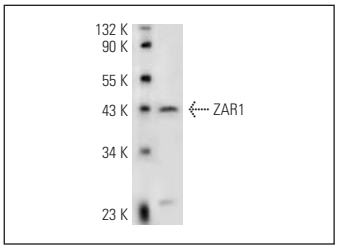
Suitable for use as control antibody for ZAR1 siRNA (h): sc-63233.

Molecular Weight of ZAR1: 45 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ZAR1 (P-16): sc-55998. Western blot analysis of ZAR1 expression in NTERA-2 cl.D1 whole cell lysate.

RESEARCH USE

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