

ZP4 (I-14): sc-49587

BACKGROUND

The mammalian zona pellucida is composed of four major glycoproteins, ZP1, ZP2, ZP3 and ZP4, which may act as sperm receptors. Two forms of porcine ZP4 peptides exist: one consisting of 128 amino acid residues and the other of 133 amino acid residues. These two peptides are identical, except the larger form contains an additional five amino acid sequence at its carboxy-terminal end. Both peptides have two potential N-linked glycosylation sites. The smaller peptide shares 39.1% identity with the amino-terminal region of mouse ZP2 polypeptide. Based on results from animal studies, ZP4 antigen is a promising candidate for the development of a contraceptive vaccine.

REFERENCES

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- Koyama, K., et al. 1992. Blocking of human sperm-zona interaction by monoclonal antibodies to a glycoprotein family (ZP4) of porcine zona pellucida. *Biol. Reprod.* 45: 727-735.
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- Lefièvre, L., et al. 2004. Four zona pellucida glycoproteins are expressed in the human. *Hum. Reprod.* 19: 1580-1586.
- Boja, E.S., et al. 2005. Structural conservation of mouse and rat zona pellucida glycoproteins. Probing the native rat zona pellucida proteome by mass spectrometry. *Biochemistry* 44: 16445-16460.
- Chakravarty, S., et al. 2005. Baculovirus-expressed recombinant human zona pellucida glycoprotein-B induces acrosomal exocytosis in capacitated spermatozoa in addition to zona pellucida glycoprotein-C. *Mol. Hum. Reprod.* 11: 365-372.

CHROMOSOMAL LOCATION

Genetic locus: ZP4 (human) mapping to 1q43; Zp4-ps (mouse) mapping to 13 A1.

SOURCE

ZP4 (I-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZP4 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-49587 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

ZP4 (I-14) is recommended for detection of ZP4 (zona pellucida sperm-binding protein 4 precursor) of mouse, rat and 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).

ZP4 (I-14) is also recommended for detection of ZP4 (zona pellucida sperm-binding protein 4 precursor) in additional species, including equine, canine, bovine, avian and feline.

Suitable for use as control antibody for ZP4 siRNA (h): sc-61832, ZP4 siRNA (m): sc-155979, ZP4 shRNA Plasmid (h): sc-61832-SH, ZP4 shRNA Plasmid (m): sc-155979-SH, ZP4 shRNA (h) Lentiviral Particles: sc-61832-V and ZP4 shRNA (m) Lentiviral Particles: sc-155979-V.

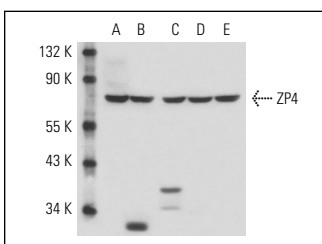
Molecular weight of ZP4: 60 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, CHO-K1 cell lysate: sc-3809 or rat ovary extract: sc-2399.

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



ZP4 (I-14): sc-49587. Western blot analysis of ZP4 expression in CHO-K1 (A), NIH/3T3 (B) and OV-90 (C) whole cell lysates and mouse embryo (D) and rat ovary (E) tissue extracts.

RESEARCH USE

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