SANTA CRUZ BIOTECHNOLOGY, INC.

ZP2 (H-300): sc-30222

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mammalian zona pellucida is composed of three major glycoproteins, ZP1, ZP2 and ZP3. ZP2 has been implicated as a secondary sperm receptor that binds sperm only after the induction of the sperm acrosome reaction. Both ZP2 and ZP3 are modified by the zona reaction; ZP2 undergoes a proteolytic cleavage and ZP3 loses its ability to induce the acrosome reaction and its sperm receptor activity. During the process of fertilization, the initial interaction between male and female gametes is mediated by a sperm receptor, ZP3, which resides in the extracellular glycoprotein matrix (zona pellucida) surrounding the oocyte. The sperm receptor function of the ZP3 molecule plays a key role in the first step of the fertilization process. Following sperm-oocyte binding, ZP3 triggers the sperm acrosome reaction that releases the protein machinery, enabling a spermatozoon to penetrate the zona pellucida.

REFERENCES

1. Liang, L.F., et al. 1990. Oocyte-specific expression of mouse ZP2: developmental regulation of the zona pellucida genes. Mol. Cell. Biol. 10: 1507-1515.
2. Dean, J. 1992. Biology of mammalian fertilization: role of the zona pellucida. J. Clin. Invest. 89: 1055-1059.
3. Kipersztok, S., et al. 1995. POM-ZP3, a bipartite transcript derived from human ZP3 and POM121 homologue. Genomics 25: 354-359.
4. Gupta, S.K., et al. 2003. Zona pellucida glycoproteins based immunocontraceptive vaccines: strategies for development and their applications. Indian J. Exp. Biol. 41: 682-693.

CHROMOSOMAL LOCATION

Genetic locus: ZP2 (human) mapping to 16p12.2.

SOURCE

ZP2 (H-300) is a rabbit polyclonal antibody raised against amino acids 41-340 mapping within an extracellular domain of ZP2 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.

APPLICATIONS

ZP2 (H-300) is recommended for detection of ZP2 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 ZP2 siRNA (h): sc-44886, ZP2 shRNA Plasmid (h): sc-44886-SH and ZP2 shRNA (h) Lentiviral Particles: sc-44886-V.

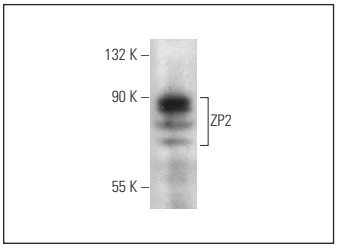
Molecular Weight of human ZP2: 64-80 kDa.

Molecular Weight of mouse ZP2: 120-140 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ZP2 (H-300): sc-30222. Western blot analysis of ZP2 expression in c4 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Fowler, P.A., et al. 2009. Gene expression analysis of human fetal ovarian primordial follicle formation. J. Clin. Endocrinol. Metab. 94: 1427-1435.
2. Cheng, X., et al. 2012. BMP15 gene is activated during human amniotic fluid stem cell differentiation into oocyte-like cells. DNA Cell Biol. 31: 1198-1204.

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.