

POMZP3 (YY-47): sc-100902

BACKGROUND

POMZP3 (POM and ZP3 fusion protein) is a 210 amino acid fusion protein expressed in a variety of human tissues, including colon, spleen, testis, thymus, ovary, lymphocytes, pancreas and small intestine. POMZP3 is encoded by a gene that resulted from the fusion of duplicated POM121 and ZP3 DNA sequences. The 5' end of POMZP3 shares 77% identity with POM121, while the 3' end shares 99% identity with ZP3. POM121 is an integral nuclear pore membrane protein that may contribute to the permeability of the nuclear pore complex (NPC). Unlike POM121, POMZP3 does not contain the nuclear pore localization motif and, therefore, most likely does not associate with the NPC. ZP3 functions as a sperm receptor ligand of the zona pellucida and 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

- Liang, L.F., Chamow, S.M. and Dean, J. 1990. Oocyte-specific expression of mouse ZP2: developmental regulation of the zona pellucida genes. *Mol. Cell. Biol.* 10: 1507-1515.
- Dean, J. 1992. Biology of mammalian fertilization: role of the zona pellucida. *J. Clin. Invest.* 89: 1055-1059.
- Kipersztok, S., Osawa, G.A., Liang, L.F., Modi, W.S. and Dean, J. 1995. POM-ZP3, a bipartite transcript derived from human ZP3 and POM121 homologue. *Genomics* 25: 354-359.
- Gupta, S.K., Choudhury, S., Srivastava, N. and Ravi, C. 2003. Zona pellucida glycoproteins based immunocontraceptive vaccines: strategies for development and their applications. *Indian J. Exp. Biol.* 41: 682-693.
- Jazwinska, A. and Affolter, M. 2004. A family of genes encoding zona pellucida (ZP) domain proteins is expressed in various epithelial tissues during *Drosophila* embryogenesis. *Gene Expr. Patterns* 4: 413-421.
- Wassarman, P.M., Jovine, L. and Litscher, E.S. 2004. Mouse zona pellucida genes and glycoproteins. *Cytogenet. Genome Res.* 105: 228-234.
- Wassarman, P.M., Jovine, L., Litscher, E.S., Qi, H. and Williams, Z. 2004. Egg-sperm interactions at fertilization in mammals. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 115 (Suppl. 1): S57-S60.
- Naz, R.K. and Rajesh, C. 2005. Gene knockouts that cause female infertility: search for novel contraceptive targets. *Front. Biosci.* 10: 2447-2459.

CHROMOSOMAL LOCATION

Genetic locus: POMZP3 (human) mapping to 7q11.23.

SOURCE

POMZP3 (YY-47) is a mouse monoclonal antibody raised against recombinant POMZP3 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

POMZP3 (YY-47) is recommended for detection of POMZP3 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), immunohistochemistry (including paraffin-embedded sections) (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 POMZP3 siRNA (h): sc-106945, POMZP3 shRNA Plasmid (h): sc-106945-SH and POMZP3 shRNA (h) Lentiviral Particles: sc-106945-V.

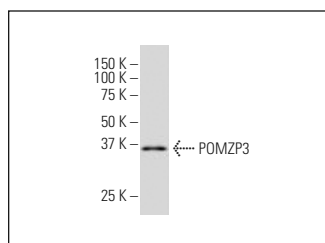
Molecular Weight of POMZP3: 23 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

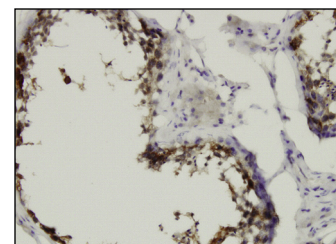
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



POMZP3 (YY-47): sc-100902. Western blot analysis of POMZP3 expression in K-562 whole cell lysate.



ZP3 (YY-47): sc-100902. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic localization.

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 for detailed protocols and support products.