

ZP1 (M1.4): sc-32751

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

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CHROMOSOMAL LOCATION

Genetic locus: Zp1 (mouse) mapping to 19 A.

SOURCE

ZP1 (M1.4) is a rat monoclonal antibody raised against particulate murine zonae pellucidae.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ZP1 (M1.4) is recommended for detection of ZP1 of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ZP1 siRNA (m): sc-41134, ZP1 shRNA Plasmid (m): sc-41134-SH and ZP1 shRNA (m) Lentiviral Particles: sc-41134-V.

Molecular Weight of glycosylated ZP1: 132 kDa.

Molecular Weight of deglycosylated ZP1: 63 kDa.

Positive Controls: mouse ovary extract: sc-2404.

SELECT PRODUCT CITATIONS

1. Egge, N., et al. 2015. Amyloid properties of the mouse egg zona pellucida. *PLoS ONE* 10: e0129907.
2. Li, H., et al. 2020. DPAGT1-mediated protein N-glycosylation is indispensable for oocyte and follicle development in mice. *Adv. Sci.* 7: 2000531.

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.