

Anti-IZUMO1 Antibody, Rabbit Monoclonal

73-042 100 µl

Function: Essential sperm cell surface protein required for fertilization by acting as a ligand for FOLR4/JUNO receptor on egg. The IZUMO1:FOLR4/JUNO interaction is a necessary adhesion event between sperm and egg that is required for fertilization but is not sufficient for cell fusion. The ligand-receptor interaction probably does not act as a membrane “fusogen”.

Molecular mass: 44,885 Da with 307 amino acids. Post-translational modification; Processing of N-terminal signal peptide with 21 amino acids. N-Glycosylation and phosphorylation.

Expression: This gene has expression in 4 organs: EMAPA:18202: epidermis , EMAPA:16105: heart , MA:0000412: seminiferous tubule , MA:0000411: testis

Applications

1. Western blotting (1/1,000 dilution)
2. Immunofluorescence staining (1/100~1/300 dilution)
3. Immunohistochemistry (1/100 dilution)
4. Inhibition of sperm fusion with egg

Specification

Immunogen: KLH-conjugated synthetic peptides corresponding to the following three regions of human IZUMO1:

[A] C+KSLEKDYLPGHLDA

[B] C+TQVPKEKATDSRQQ

[C] C+ATTESSISLQPLQ

Reactivity: Human and mouse. Not tested in other species.

Form: Rabbit antiserum added with 0.1% sodium azide

Storage: Shipped at 4°C or at -20°C. Upon arrival, spin-down, aliquot and store at -20°C

Data Link: UniProt/Q8IYV9 (human IZUMO1), UniProt/Q9D9J7 (mouse IZUMO1)

Reference: This antibody was described and used in the following publication.

Inoue N. et al. (2005) The immunoglobulin superfamily protein Izumo is required for sperm to fuse with eggs. Nature. 434:234-8. PubMed 15759005

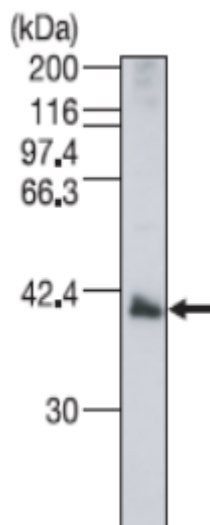


Fig.1 Identification of IZUMO1 protein in the lysate of human sperm by western blotting with anti- IZUMO1 antibody

Proteins in the lysate (20 µg) was separated on SDS-PAGE, blotted to PVDF membrane and reacted with anti-human IZUMO1 antibody at 1/1,000 dilution

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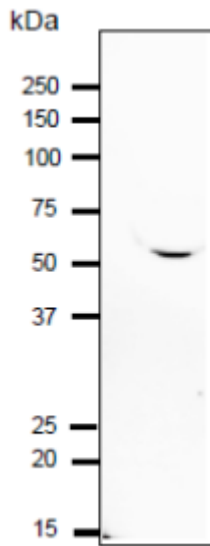


Fig.2 Analysis of IZUMO1 protein in the lysates of mouse sperm by western blotting with polyclonal anti- IZUMO1 antibody

Proteins in the lysates (10 μ g) was separated on SDS-PAGE (10~20% gradient gel), blotted to PVDF membrane and reacted with the polyclonal anti-IZUMO1 antibody at 1/1,000 dilution

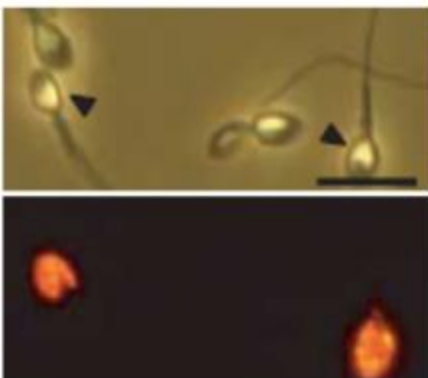


Fig.3 Immunostaining of IZUMO1 in human sperm using polyclonal anti-IZUMO1 antibody

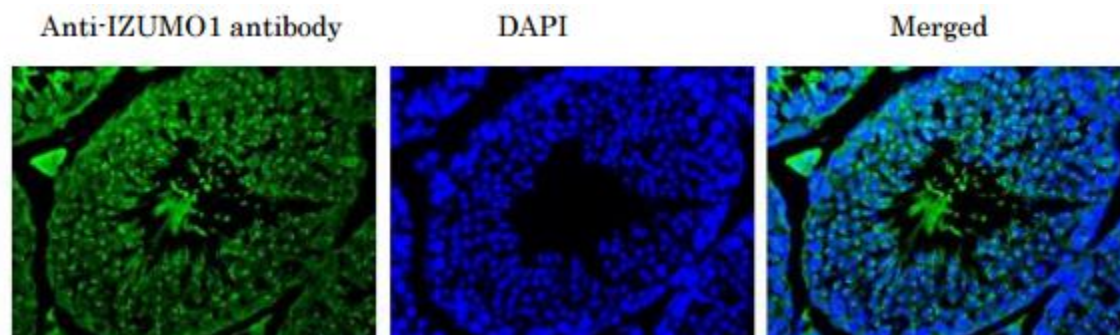


Fig.4. Immunohistochemistry of mouse testis using anti-IZUMO1 antibody

Key words: Acrosome reaction, Membrane fusion, Protein trafficking, IZUMO1, Sperm–egg fusion