

Zonadhesin (H-2): sc-514467

BACKGROUND

Zonadhesin, also known as ZAN, is a sperm-specific, transmembrane protein that binds the spermatozoa to the zona pellucida of the oocyte, thereby initiating acrosomal fusion. Expressed primarily in the testes and localized to the apical region of the sperm head, Zonadhesin is a 2,812 amino acid protein that mediates species-specific cell adhesion in the sperm head and is essential for proper fertilization. Zonadhesin contains three MAM (Meprin/A5 antigen/ μ receptor tyrosine phosphatase) domains and four VWF (von Willebrand factor) domains which mediate sperm adhesion and covalent oligomerization, respectively. Seven isoforms of Zonadhesin exist due to alternative splicing events. Four of the seven splice variants are expressed at low levels due to the presence of a premature mRNA stop codon that results in nonsense-mediated mRNA decay.

REFERENCES

1. Gao, Z., et al. 1997. Chromosome localization of the mouse Zonadhesin gene and the human Zonadhesin gene (ZAN). *Genomics* 41: 119-122.
2. Gao, Z. and Garbers, D.L. 1998. Species diversity in the structure of Zonadhesin, a sperm-specific membrane protein containing multiple cell adhesion molecule-like domains. *J. Biol. Chem.* 273: 3415-3421.
3. Lea, I.A., et al. 2001. Zonadhesin: characterization, localization, and zona pellucida binding. *Biol. Reprod.* 65: 1691-1700.
4. Bi, M., et al. 2003. Processing, localization and binding activity of Zonadhesin suggest a function in sperm adhesion to the zona pellucida during exocytosis of the acrosome. *Biochem. J.* 375: 477-488.
5. Olson, G.E., et al. 2004. Zonadhesin assembly into the hamster sperm acrosomal matrix occurs by distinct targeting strategies during spermiogenesis and maturation in the epididymis. *Biol. Reprod.* 71: 1128-1134.

CHROMOSOMAL LOCATION

Genetic locus: Zan (mouse) mapping to 5 G2.

SOURCE

Zonadhesin (H-2) is a mouse monoclonal antibody raised against amino acids 151-450 mapping within an N-terminal extracellular domain of Zonadhesin of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Zonadhesin (H-2) is available conjugated to agarose (sc-514467 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514467 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514467 PE), fluorescein (sc-514467 FITC), Alexa Fluor® 488 (sc-514467 AF488), Alexa Fluor® 546 (sc-514467 AF546), Alexa Fluor® 594 (sc-514467 AF594) or Alexa Fluor® 647 (sc-514467 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514467 AF680) or Alexa Fluor® 790 (sc-514467 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Zonadhesin (H-2) is recommended for detection of Zonadhesin of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 Zonadhesin siRNA (m): sc-155824, Zonadhesin shRNA Plasmid (m): sc-155824-SH and Zonadhesin shRNA (m) Lentiviral Particles: sc-155824-V.

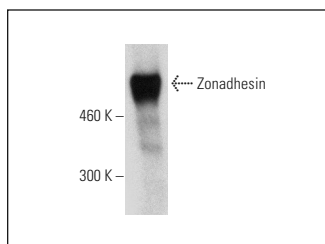
Molecular Weight of Zonadhesin: 580 kDa.

Positive Controls: mouse testis extract: sc-2405.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Zonadhesin (H-2): sc-514467. Western blot analysis of Zonadhesin expression in mouse testis tissue extract.

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.