



## ADAM1 (T-14): sc-21306

### BACKGROUND

Fertilin, also known as PH-30, is a sperm surface protein that is a member of the MDC (metalloprotease, disintegrin-like, cysteine-rich) family of proteins. This family is also known as the ADAM (a disintegrin and a metalloprotease domain) family of proteins because the members contain a metalloprotease and a disintegrin domain. Approximately 30 ADAM family members have been identified so far, and members of this family function as proteases and/or as cell adhesion molecules. Fertilin is a heterodimer of fertilin- $\alpha$  and fertilin- $\beta$  subunits, which are also known as ADAM1 and ADAM2, respectively. Both subunits are synthesized in the testis as larger precursors. ADAM1 is proteolytically processed in the testis into the mature form, while ADAM2 undergoes final processing during the epididymal transit. ADAM1 is also expressed, to a much lesser extent, in the liver. Functional blocking of the disintegrin domains of both ADAM1 and ADAM2 inhibits sperm-egg binding, and recombinant forms of the extracellular domains of both subunits bind the surface of eggs.

### REFERENCES

1. Perry, A., et al. 1995. Analysis of transcripts encoding novel members of the mammalian metalloprotease-like, disintegrin-like, cysteine-rich (MDC) protein family and their expression in reproductive and non-reproductive monkey tissues. *Biochem. J.* 312: 239-244.
2. Evans, J., et al. 1997. Characterization of the binding of recombinant mouse sperm fertilin- $\alpha$  subunit to mouse eggs: evidence for function as a cell adhesion molecule in sperm-egg binding. *Dev. Biol.* 1: 94-106.
3. Yuan, R., et al. 1997. A role for the disintegrin domain of cyritestin, a sperm surface protein belonging to the ADAM family, in mouse sperm-egg plasma membrane adhesion and fusion. *J. Cell Biol.* 137: 105-112.
4. Jury, J., et al. 1997. The human fertilin- $\alpha$  gene is non-functional: implications for its proposed role in fertilization. *Biochem. J.* 321: 577-581.
5. Cho, C., et al. 2000. Analysis of mouse fertilin in wildtype and fertilin- $\beta$  (-/-) sperm: evidence for C-terminal modification,  $\alpha/\beta$  dimerization, and lack of essential role of fertilin- $\alpha$  in sperm-egg fusion. *Dev. Biol.* 2: 289-295.
6. Wong, G., et al. 2001. Analysis of fertilin- $\alpha$  (ADAM1)-mediated sperm-egg cell adhesion during fertilization and identification of an adhesion-mediating sequence in the disintegrin-like domain. *J. Biol. Chem.* 276: 24937-24945.

### CHROMOSOMAL LOCATION

Genetic locus: Adam1a (mouse) mapping to 5 F.

### SOURCE

ADAM1 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADAM1 of mouse origin.

### STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21306 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

ADAM1 (T-14) is recommended for detection of ADAM1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 ADAM1 siRNA (m): sc-41424.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.