

ADAM3 (E-17): sc-67414



The Power to Question

BACKGROUND

ADAMs (a disintegrin and metalloproteinase domain), also known as MDCs (metalloproteinase, disintegrin and cysteine-rich domain) or cellular disintegrins, are a family of proteins that are expressed in numerous tissues. They catalyze proteolysis, adhesion, fusion and intracellular signaling. ADAMs are membrane-anchored, glycosylated, Zn²⁺ dependent proteases and there are over 30 different members in the family, with many diverse functions. ADAM3, also called cyritestin, is exclusively expressed on the surface of sperm. In the early development of sperm, ADAM3 forms a complex with ADAM2. Disruption of this complex can impair the function and structure of ADAM3. ADAM3 plays a significant role in sperm-oocyte binding. Sperm lacking functional ADAM3 cannot bind to the zona pellucida and fertilization cannot take place.

REFERENCES

1. Kaji, K. and Kudo, A. 2004. The mechanism of sperm-oocyte fusion in mammals. *Reproduction* 127: 423-429.
2. Kim, E., et al. 2004. Synthesis, processing and subcellular localization of mouse ADAM3 during spermatogenesis and epididymal sperm transport. *J. Reprod. Dev.* 50: 571-578.
3. Tres, L.L. and Kierszenbaum, A.L. 2005. The ADAM-integrin-tetraspanin complex in fetal and postnatal testicular cords. *Birth Defects Res. C Embryo Today* 75: 130-141.
4. Kim, T., et al. 2006. Expression and relationship of male reproductive ADAMs in mouse. *Biol. Reprod.* 74: 744-750.
5. Yamaguchi, R., et al. 2006. Aberrant distribution of ADAM3 in sperm from both angiotensin-converting enzyme (Ace)- and calmeglin (Clgn)-deficient mice. *Biol. Reprod.* 75: 760-766.
6. Rubinstein, E., et al. 2006. The molecular players of sperm-egg fusion in mammals. *Semin. Cell Dev. Biol.* 17: 254-263.

CHROMOSOMAL LOCATION

Genetic locus: Adam3 (mouse) mapping to 8 A2.

SOURCE

ADAM3 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADAM3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-67414 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

ADAM3 (E-17) is recommended for detection of ADAM3 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ADAM3 siRNA (m): sc-61941, ADAM3 shRNA Plasmid (m): sc-61941-SH and ADAM3 shRNA (m) Lentiviral Particles: sc-61941-V.

Molecular Weight of mature ADAM3: 42 kDa.

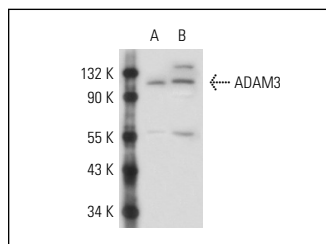
Molecular Weight of ADAM3 precursor: 110 kDa.

Positive Controls: mouse testis extract: sc-2405 or rat testis extract: sc-2400.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ADAM3 (E-17): sc-67414. Western blot analysis of ADAM3 expression in mouse testis (A) and rat testis (B) tissue extracts.

RESEARCH USE

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



Try **ADAM3 (F-4): sc-365288**, our highly recommended monoclonal alternative to ADAM3 (E-17).