SANTA CRUZ BIOTECHNOLOGY, INC.

ADAM18 (Y-14): sc-25981

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The Power to Question

BACKGROUND

The ADAM (a disintegrin and metalloprotease) protein family, which includes over 30 membrane-anchored, glycosylated, Zn^{2+} dependent proteases, plays a role in cell-cell and cell-matrix interface related processes, including fertilization, muscle fusion, secretion of tumor necrosis factor-α (TNFα), and modulation of the neurogenic function of Notch and Delta. The ADAM proteins possess a signal-domain, a pro-domain, a metalloprotease domain, a disintegrin domain (Integrin ligand), a cysteine-rich region, an epidermal growth factor-like domain, a transmembrane domain and a cytoplasmic tail. ADAMs are expressed in a wide range of mammalian tissues and several are abundantly expressed in the male reproductive tract. ADAM18 (tMDC III), an ADAM family member exclusively expressed on sperm, contains a putative integrin-binding Glu-Cys-Asp (ECD) motif and may participate in oolemma binding.

REFERENCES

1. Wolfsberg, T.G., et al. 1995. ADAM, a novel family of membrane proteins containing A Disintegrin And Metalloprotease domain: multipotential functions in cell-cell and cell-matrix interactions. J. Cell Biol. 131: 275-278.
2. Frayne, J., et al. 1998. The MDC family of proteins and their processing during epididymal transit. J. Reprod. Fertil. Suppl. 53: 149-155.
3. Frayne, J., et al. 1999. Transcripts encoding the sperm surface protein tMDC II are non-functional in the human. Biochem. J. 341: 771-775.
4. Stone, A.L., et al. 1999. Structure-function analysis of the ADAM family of disintegrin-like and metalloproteinase-containing proteins (review). J. Protein Chem. 18: 447-465.
5. Primakoff, P., et al. 2000. The ADAM gene family: surface proteins with adhesion and protease activity. Trends Genet. 16: 83-87.
6. Frayne, J., et al. 2002. Human tMDC III: a sperm protein with a potential role in oocyte recognition. Mol. Hum. Reprod. 8: 817-822.

CHROMOSOMAL LOCATION

Genetic locus: ADAM18 (human) mapping to 8p11.22.

SOURCE

ADAM18 (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ADAM18 of human 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-25981 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.

RESEARCH USE

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

APPLICATIONS

ADAM18 (Y-14) is recommended for detection of ADAM18 of human 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).

ADAM18 (Y-14) is also recommended for detection of ADAM18 in additional species, including equine and canine.

Suitable for use as control antibody for ADAM18 siRNA (h): sc-105039, ADAM18 shRNA Plasmid (h): sc-105039-SH and ADAM18 shRNA (h) Lentiviral Particles: sc-105039-V.

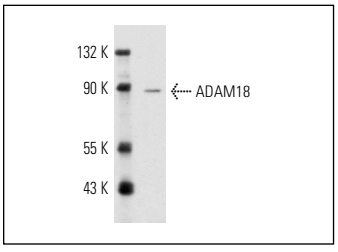
Molecular Weight of ADAM18: 83 kDa.

Positive Controls: Caki-1 whole cell lysate: sc-2224.

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



ADAM18 (Y-14): sc-25981. Western blot analysis of ADAM18 expression in Caki-1 whole cell lysate.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.