

ADAM18 (P-15): sc-25980

BACKGROUND

The ADAM (a disintegrin and metalloprotease) protein family, which includes over 30 membrane-anchored, glycosylated, Zn²⁺ dependent proteases, plays a role in cell-cell and cell-matrix interface related processes, including fertilization, muscle fusion, secretion of tumor necrosis factor α (TNF α), 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 (mouse) mapping to 8 A2.

SOURCE

ADAM18 (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ADAM18 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-25980 P, (100 μ g 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

ADAM18 (P-15) is recommended for detection of ADAM18 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).

ADAM18 (P-15) is also recommended for detection of ADAM18 in additional species, including porcine.

Suitable for use as control antibody for ADAM18 siRNA (m): sc-140853, ADAM18 shRNA Plasmid (m): sc-140853-SH and ADAM18 shRNA (m) Lentiviral Particles: sc-140853-V.

Molecular Weight of ADAM18: 83 kDa.

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 or our catalog for detailed protocols and support products.