SANTA CRUZ BIOTECHNOLOGY, INC.

ADAM12 (C-20): sc-16527

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ADAM (a disintegrin and metalloprotease) proteins are a family of over 30 membrane-anchored, glycosylated, Zn^{2+} dependent proteases that are involved in cell-cell, cell-matrix interface related processes including fertilization, muscle fusion, secretion of TNF (tumor necrosis factor α), and modulation of the neurogenic function of Notch and Delta. 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 brain, testis, epididymis, ovary, breast, placenta, liver, heart, lung, bone and muscle, and catalyze proteolysis, adhesion, fusion and intracellular signaling. ADAM12 (Meltrin-α) is produced as 2 differentially spliced isoforms, a 718 amino acid secreted form (ADAM12S) and a 881 amino acid membrane-bound form (ADAM12L), and is involved in egg-sperm fusion.

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. Yagami-Hiromasa, T., et al. 1995. A metalloprotease-disintegrin participating in myoblast fusion. Nature 377: 652-656.
3. Gilpin, B.J., et al. 1998. A novel, secreted form of human ADAM 12 (meltrin alpha) provokes myogenesis *in vivo*. J. Biol. Chem. 273: 157-166.
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. and Myles, D.G. 2000. The ADAM gene family: surface proteins with adhesion and protease activity. Trends Genet. 16: 83-87.

CHROMOSOMAL LOCATION

Genetic locus: ADAM12 (human) mapping to 10q26.2; Adam12 (mouse) mapping to 7 F3.

SOURCE

ADAM12 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADAM12 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-16527 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

ADAM12 (C-20) is recommended for detection of ADAM12 of mouse, rat and human 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).

ADAM12 (C-20) is also recommended for detection of ADAM12 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ADAM12 siRNA (h): sc-41414, ADAM12 siRNA (m): sc-41415, ADAM12 shRNA Plasmid (h): sc-41414-SH, ADAM12 shRNA Plasmid (m): sc-41415-SH, ADAM12 shRNA (h) Lentiviral Particles: sc-41414-V and ADAM12 shRNA (m) Lentiviral Particles: sc-41415-V.

Molecular Weight of ADAM12: 105 kDa.

Positive Controls: BT-20 cell lysate: sc-2223, JAR cell lysate: sc-2276 or F9 cell lysate: sc-2245.

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.

SELECT PRODUCT CITATIONS

1. Lafuste, P., et al. 2005. ADAM12 and $\alpha 9\beta 1$ integrin are instrumental in human myogenic cell differentiation. Mol. Biol. Cell 16: 861-870.
2. Okada, A., et al. 2008. ADAM12 (meltrin α) is involved in chondrocyte proliferation via cleavage of insulin-like growth factor binding protein 5 in osteoarthritic cartilage. Arthritis Rheum. 58: 778-789.

PROTOCOLS

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