

# ADAM19 (H-65): sc-99241

## BACKGROUND

The ADAM (a disintegrin and metalloprotease) protein family, which includes over 30 membrane-anchored, glycosylated, Zn<sup>2+</sup> dependent proteases, plays a role in cell-cell and cell-matrix interface related processes, including fertilization, muscle fusion, secretion of TNF $\alpha$  (tumor necrosis factor  $\alpha$ ) 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. Expression of ADAM19, also designated meltrin- $\beta$ , is highest in the peripheral nervous system during embryogenesis, but is also apparent in placenta, brain, heart, lung, leukocytes and SW480 cells. ADAM19 also serves as a dendritic cell marker. Truncation of ADAM19 in its cysteine-rich domain is necessary to exert its proteolytic activity on specific substrates, including  $\alpha$ 2-macroglobulin.

## REFERENCES

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2. 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.
3. Primakoff, P., et al. 2000. The ADAM gene family: surface proteins with adhesion and protease activity. *Trends Genet.* 16: 83-87.
4. Fritsche, J., et al. 2000. Molecular cloning and characterization of a human metalloprotease disintegrin—a novel marker for dendritic cell differentiation. *Blood* 96: 732-739.
5. Zhao, Y.G., et al. 2001. Inhibitory antibodies against endopeptidase activity of human adamalysin 19. *Biochem. Biophys. Res. Commun.* 289: 288-294.
6. Wei, P., et al. 2001. Expression and enzymatic activity of human disintegrin and metalloproteinase ADAM19/meltrin  $\beta$ . *Biochem. Biophys. Res. Commun.* 280: 744-755.
7. Kurisaki, T., et al. 2002. Meltrin  $\beta$  mini, a new ADAM19 isoform lacking metalloprotease and disintegrin domains, induces morphological changes in neuronal cells. *FEBS Lett.* 532: 419-422.
8. Kang, T., et al. 2002. Autolytic processing at Glu586-Ser587 within the cysteine-rich domain of human adamalysin 19/disintegrin-metalloprotease 19 is necessary for its proteolytic activity. *J. Biol. Chem.* 277: 48514-48522.

## CHROMOSOMAL LOCATION

Genetic locus: ADAM19 (human) mapping to 5q33.3; Adam19 (mouse) mapping to 11 B1.1.

## STORAGE

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

## SOURCE

ADAM19 (H-65) is a rabbit polyclonal antibody raised against amino acids 721-785 mapping within a C-terminal cytoplasmic domain of ADAM19 of human origin.

## PRODUCT

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

## APPLICATIONS

ADAM19 (H-65) is recommended for detection of ADAM19 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

ADAM19 (H-65) is also recommended for detection of ADAM19 in additional species, including bovine and porcine.

Suitable for use as control antibody for ADAM19 siRNA (h): sc-41417, ADAM19 siRNA (m): sc-41418, ADAM19 shRNA Plasmid (h): sc-41417-SH, ADAM19 shRNA Plasmid (m): sc-41418-SH, ADAM19 shRNA (h) Lentiviral Particles: sc-41417-V and ADAM19 shRNA (m) Lentiviral Particles: sc-41418-V.

Molecular Weight of ADAM19 precursor: 115 kDa.

Molecular Weight of mature ADAM19: 87 kDa.

Positive Controls: Daudi + IL-4 cell lysate: sc-2267 or NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.