

# ADAM10 (A-3): sc-48400

## BACKGROUND

ADAM (a disintegrin and metalloprotease) proteins are a family of over 30 membrane-anchored, glycosylated, Zn<sup>2+</sup> dependent proteases that are involved in cell-cell, 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. 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. ADAM10 is a TNF-processing enzyme that cleaves pro-TNF, a membrane-bound precursor protein, at Ala 76-Val 77, which causes membrane shedding of soluble TNF.

## 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. Rosendahl, M.S., et al. 1997. Identification and characterization of a pro-tumor necrosis factor- $\alpha$ -processing enzyme from the ADAM family of zinc metalloproteases. *J. Biol. Chem.* 272: 24588-24593.
3. 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.

## CHROMOSOMAL LOCATION

Genetic locus: ADAM10 (human) mapping to 15q21.3; Adam10 (mouse) mapping to 9 D.

## SOURCE

ADAM10 (A-3) is a mouse monoclonal antibody raised against amino acids 1-300 of ADAM10 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ADAM10 (A-3) is available conjugated to agarose (sc-48400 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48400 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48400 PE), fluorescein (sc-48400 FITC), Alexa Fluor<sup>®</sup> 488 (sc-48400 AF488), Alexa Fluor<sup>®</sup> 546 (sc-48400 AF546), Alexa Fluor<sup>®</sup> 594 (sc-48400 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-48400 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-48400 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-48400 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

ADAM10 (A-3) is recommended for detection of ADAM10 of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (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 ADAM10 siRNA (h): sc-41410, ADAM10 siRNA (m): sc-41411, ADAM10 siRNA (r): sc-270165, ADAM10 shRNA Plasmid (h): sc-41410-SH, ADAM10 shRNA Plasmid (m): sc-41411-SH, ADAM10 shRNA Plasmid (r): sc-270165-SH, ADAM10 shRNA (h) Lentiviral Particles: sc-41410-V, ADAM10 shRNA (m) Lentiviral Particles: sc-41411-V and ADAM10 shRNA (r) Lentiviral Particles: sc-270165-V.

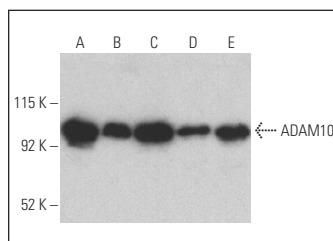
Molecular Weight of active ADAM10: 60 kDa.

Molecular Weight of processed ADAM10: 80 kDa.

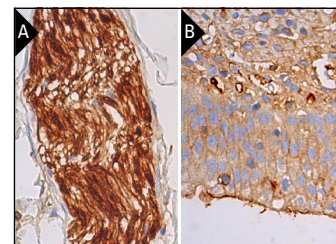
Molecular Weight of ADAM10 precursor: 100 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

## DATA



ADAM10 (A-3) HRP: sc-48400 HRP. Direct western blot analysis of ADAM10 expression in A549 (A), HuT 78 (B), Jurkat (C), NIH/3T3 (D) and LNCaP (E) whole cell lysates.



ADAM10 (A-3): sc-48400. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cartilage tissue showing membrane, cytoplasmic and nuclear staining of cells in nerve plexus (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing membrane and cytoplasmic staining of urothelial cells (B).

## SELECT PRODUCT CITATIONS

1. Freude, S., et al. 2009. Neuronal IGF-1 resistance reduces A $\beta$  accumulation and protects against premature death in a model of Alzheimer's disease. *FASEB J.* 23: 3315-3324.
2. Yang, S., et al. 2020. Quercetin is protective against short-term dietary advanced glycation end products intake induced cognitive dysfunction in aged ICR mice. *J. Food Biochem.* 44: e13164.
3. Cheng, Y., et al. 2021. ADAM10 is involved in the oncogenic process and chemo-resistance of triple-negative breast cancer via regulating Notch1 signaling pathway, CD44 and PrPc. *Cancer Cell Int.* 21: 32.

## RESEARCH USE

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