

ADAM23 (H-65): sc-50482

BACKGROUND

ADAMs (disintegrin and metalloproteinase domain), also known as MDCs (metalloproteinase, disintegrin and cysteine-rich domain) or cellular disintegrins, are a family of proteins that are expressed in numerous different tissues. They catalyze proteolysis, adhesion, fusion and intracellular signaling. ADAMs are membrane-anchored proteins and there are over 30 different members in the family with many diverse functions. ADAM23 is exclusively expressed in fetal and adult brains and may function as an integrin ligand in cells of neural origin. Adhesion of neuroblastoma and astrocytoma cells is promoted by the disintegrin-like domain of ADAM23 and is mediated by an interaction of this protein with $\alpha V/\beta 3$. A short amino acid sequence in the disintegrin loop of ADAM23 interacts with $\alpha V/\beta 3$ to mediate cell interactions that take place during both normal and pathological processes. The three characteristic histidine residues and the glutamic acid residue typical of metalloproteinases are lacking in the metalloproteinase-like domain of ADAM23. This suggests that ADAM23 may not be involved in protease-mediated events, but could exclusively serve in cell adhesion processes. In addition, evidence suggests that ADAM23 may be a tumor suppressor gene.

REFERENCES

- Sagane, K., et al. 1998. Metalloproteinase-like, disintegrin-like, cysteine-rich proteins MDC2 and MDC3: novel human cellular disintegrins highly expressed in the brain. *Biochem. J.* 334: 93-98.
- Sagane, K., et al. 1999. Cloning and chromosomal mapping of mouse ADAM11, ADAM22 and ADAM23. *Gene* 236: 79-86.
- Cal, S., et al. 2000. ADAM 23/MDC3, a human disintegrin that promotes cell adhesion via interaction with the $\alpha V/\beta 3$ Integrin through an RGD-independent mechanism. *Mol. Biol. Cell* 11: 1457-1469.
- Goldsmith, A.P., et al. 2004. ADAM23 is a cell-surface glycoprotein expressed by central nervous system neurons. *J. Neurosci. Res.* 78: 647-658.
- Hagihara, A., et al. 2004. Identification of 27 5' CpG islands aberrantly methylated and 13 genes silenced in human pancreatic cancers. *Oncogene* 23: 8705-8710.
- Costa, F.F., et al. 2005. ADAM23 methylation and expression analysis in brain tumors. *Neurosci. Lett.* 380: 260-264.

CHROMOSOMAL LOCATION

Genetic locus: ADAM23 (human) mapping to 2q33.3; Adam23 (mouse) mapping to 1 C2.

SOURCE

ADAM23 (H-65) is a rabbit polyclonal antibody raised against amino acids 351-415 mapping within an extracellular domain of ADAM23 of human origin.

PRODUCT

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

APPLICATIONS

ADAM23 (H-65) is recommended for detection of ADAM23 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

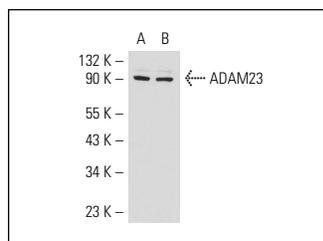
ADAM23 (H-65) is also recommended for detection of ADAM23 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ADAM23 siRNA (h): sc-61938, ADAM23 siRNA (m): sc-61939, ADAM23 shRNA Plasmid (h): sc-61938-SH, ADAM23 shRNA Plasmid (m): sc-61939-SH, ADAM23 shRNA (h) Lentiviral Particles: sc-61938-V and ADAM23 shRNA (m) Lentiviral Particles: sc-61939-V.

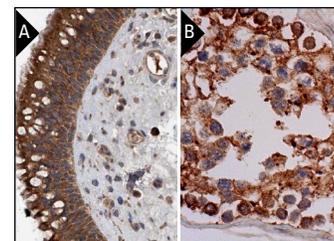
Molecular Weight of ADAM23: 92 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



ADAM23 (H-65): sc-50482. Western blot analysis of ADAM23 expression in mouse brain (A) and rat brain (B) tissue extract.



ADAM23 (H-65): sc-50482. Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx showing cytoplasmic staining of respiratory epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (B).

SELECT PRODUCT CITATIONS

- Hu, C., et al. 2011. The expression of ADAM23 and its correlation with promoter methylation in non-small-cell lung carcinoma. *Int. J. Exp. Pathol.* 92: 333-339.

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.

PROTOCOLS

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