

ADAMTS-5 (H-200): sc-134952

BACKGROUND

ADAMTS (a disintegrin and metalloproteinase domain with Thrombospondin type 1 modules) proteins comprise a family of zinc-dependent proteases that are implicated in a variety of normal and pathological conditions, including arthritis and cancer. ADAMTS family members contain an N-terminal propeptide domain, a metalloproteinase domain, a disintegrin-like domain and a C-terminus that contains a varying number of Thrombospondin type 1 (TSP-1) motifs. ADAMTS-5, also known as ADAMTS-11 or ADMP2, is a 930 amino acid secreted protein that localizes to the extracellular matrix and contains one disintegrin domain, one peptidase M12B domain and 2 TSP type 1 domains. Expressed at low levels in heart, brain, bladder, cervix and placental tissue, ADAMTS-5 uses zinc as a cofactor to catalyze the cleavage of aggrecan (a cartilage proteoglycan) and is thought to be involved in aggrecan turn-over, specifically in the destruction of aggrecan in arthritic diseases. Due to its involvement in aggrecan degradation, ADAMTS-5 is thought to play a role in the pathogenesis of osteoarthritis. The ADAMTS-5 precursor is processed by Furin endopeptidase to yield a smaller, active form of the expressed protein.

REFERENCES

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- Tortorella, M.D., et al. 2004. α_2 -macroglobulin is a novel substrate for ADAMTS-4 and ADAMTS-5 and represents an endogenous inhibitor of these enzymes. *J. Biol. Chem.* 279: 17554-17561.
- Held-Feindt, J., et al. 2006. Matrix-degrading proteases ADAMTS-4 and ADAMTS-5 (disintegrins and metalloproteinases with thrombospondin motifs 4 and 5) are expressed in human glioblastomas. *Int. J. Cancer* 118: 55-61.
- Zhu, H., et al. 2007. Expression of ADAMTS-5/implantin in human decidual stromal cells: regulatory effects of cytokines. *Hum. Reprod.* 22: 63-74.
- Gendron, C., et al. 2007. Proteolytic activities of human ADAMTS-5: comparative studies with ADAMTS-4. *J. Biol. Chem.* 282: 18294-18306.
- Malfait, A.M., et al. 2008. Proprotein convertase activation of aggrecanases in cartilage *in situ*. *Arch. Biochem. Biophys.* 478: 43-51.

CHROMOSOMAL LOCATION

Genetic locus: ADAMTS5 (human) mapping to 21q21.3; Adamts5 (mouse) mapping to 16 C3.3.

SOURCE

ADAMTS-5 (H-200) is a rabbit polyclonal antibody raised against amino acids 731-930 mapping at the C-terminus of ADAMTS-5 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

ADAMTS-5 (H-200) is recommended for detection of ADAMTS-5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ADAMTS-5 (H-200) is also recommended for detection of ADAMTS-5 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ADAMTS-5 siRNA (h): sc-91432, ADAMTS-5 siRNA (m): sc-140867, ADAMTS-5 shRNA Plasmid (h): sc-91432-SH, ADAMTS-5 shRNA Plasmid (m): sc-140867-SH, ADAMTS-5 shRNA (h) Lentiviral Particles: sc-91432-V and ADAMTS-5 shRNA (m) Lentiviral Particles: sc-140867-V.

Molecular Weight of ADAMTS-5 precursor: 105 kDa.

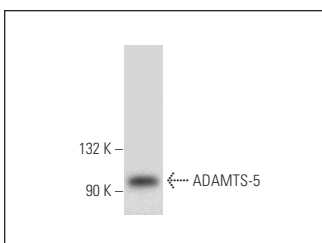
Molecular Weight of ADAMTS-5 active form: 75 kDa.

Positive Controls: U-937 cell lysate: sc-2239.

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.

DATA



ADAMTS-5 (H-200): sc-134952. Western blot analysis of ADAMTS-5 expression in U-937 whole cell lysate.

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.