ADAMTS-5 (D-16): sc-83186

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

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 aggregan (a cartilage proteoglycan) and is thought to be involved in aggregan turnover, specifically in the destruction of aggregan in arthritic diseases. Due to its involvement in aggregan 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

1. Hurskainen, T.L., et al. 1999. ADAMTS-5, ADAMTS-6, and ADAMTS-7, novel members of a new family of zinc metalloproteases. General features and genomic distribution of the ADAMTS family. J. Biol. Chem. 274: 25555-25563.

2. Tortorella, M.D., et al. 2004. α2-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.

CHROMOSOMAL LOCATION

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

SOURCE

ADAMTS-5 (D-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of ADAMTS-5 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, ready 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

ADAMTS-5 (D-16) 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), 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); non cross-reactive with other ADAMTS family members.

ADAMTS-5 (D-16) is also recommended for detection of ADAMTS-5 in additional species, including equine, canine, bovine, porcine and avian.

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.

DATA

ADAMTS-5 (D-16): sc-83186. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing Z discs and cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Didangelos, A., et al. 2012. Novel role of ADAMTS-5 protein in proteoglycan turnover and lipoprotein retention in atherosclerosis. J. Biol. Chem. 287: 19341-19345.

2. Yurube, T., et al. 2012. Rat tail static compression model mimics extracellular matrix metabolic imbalances of matrix metalloproteinases, aggrecanases, and tissue inhibitors of metalloproteinases in intervertebral disc degeneration. Arthritis Res. Ther. 14: R51.

PROTOCOLS

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