

ADAMTS-4 (K-20): sc-16533

BACKGROUND

ADAMTS (a disintegrin and metalloprotease with thrombospondin motifs) protein 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-4 (also known as aggrecanase-1) is an 837 amino acid, Zn-metalloprotease that mediates proteolytic degradation of Aggrecan, a major component of cartilage. Aggrecan swells and hydrates the collagen fibril meshwork in cartilage, which confers compressibility and resilience. Degradation of Aggrecan is a factor that contributes to erosion of articular cartilage in arthritic diseases. Traditional matrix metalloproteinases (MMPs) cleave Aggrecan at Asn 341-Phe 342 whereas ADAMTS-4 cleaves at Glu 373-Ala 374. Inhibitors tailored to both MMPs and ADAMTSs may hinder the rate of cartilage degradation in arthritic individuals.

CHROMOSOMAL LOCATION

Genetic locus: ADAMTS4 (human) mapping to 1q23.3; Adamts4 (mouse) mapping to 1 H3.

SOURCE

ADAMTS-4 (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADAMTS-4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-16533 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ADAMTS-4 (K-20) is recommended for detection of ADAMTS-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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-4 (K-20) is also recommended for detection of ADAMTS-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ADAMTS-4 siRNA (h): sc-41428, ADAMTS-4 siRNA (m): sc-41429, ADAMTS-4 shRNA Plasmid (h): sc-41428-SH, ADAMTS-4 shRNA Plasmid (m): sc-41429-SH, ADAMTS-4 shRNA (h) Lentiviral Particles: sc-41428-V and ADAMTS-4 shRNA (m) Lentiviral Particles: sc-41429-V.

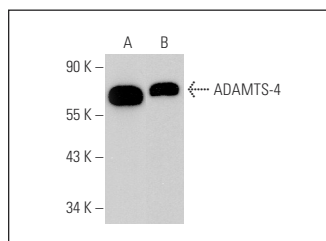
Molecular Weight of ADAMTS-4: 90 kDa.

Positive Controls: ADAMTS-4 (h): 293T Lysate: sc-373571, rat heart extract: sc-2393 or rat lung extract: sc-2396.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ADAMTS-4 (K-20): sc-16533. Western blot analysis of ADAMTS-4 expression in rat lung (A) and rat heart (B) tissue extracts.

SELECT PRODUCT CITATIONS

- Medina-Flores, R., et al. 2004. Destruction of extracellular matrix proteoglycans is pervasive in simian retroviral neuroinfection. *Neurobiol. Dis.* 16: 604-616.
- Le Maitre, C.L., et al. 2004. Localization of degradative enzymes and their inhibitors in the degenerate human intervertebral disc. *J. Pathol.* 204: 47-54.
- Pockert, A.J., et al. 2009. Modified expression of the ADAMTS enzymes and tissue inhibitor of metalloproteinases 3 during human intervertebral disc degeneration. *Arthritis Rheum.* 60: 482-491.

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.