

ADAMTS-7 (S-15): sc-163643

BACKGROUND

ADAMTS (a disintegrin and metalloproteinase domain with thrombospondin type-1 modules) is a family of zinc-dependent proteases that are implicated in a variety of normal and pathological conditions, including arthritis and cancer. ADAMTS 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 genes are primarily expressed in fetal tissues, including lung, kidney and liver. ADAMTS-7 (ADAM metalloproteinase with thrombospondin type 1 motif, 7), also known as COMPase, is a 1,686 amino acid protein that exists as 2 alternatively spliced isoforms. Encoded by a gene that maps to human chromosome 15q25.1, ADAMTS-7 contains 8 TSP-1 motifs and binds one zinc ion per subunit. ADAMTS-7 is expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. ADAMTS-7 is also located in meniscus, bone, tendon, cartilage, synovium, fat and ligaments, and is up-regulated in articular cartilage and synovium in arthritis patients. ADAMTS-7 functions as a metalloprotease and may play a role in the degradation of COMP. ADAMTS-7 is pH dependent, with optimum pH between 7.5 and 9.5.

REFERENCES

- Hurskainen, T.L., et al. 1999. ADAM-TS5, ADAM-TS6, and ADAM-TS7, novel members of a new family of zinc metalloproteases. General features and genomic distribution of the ADAM-TS family. *J. Biol. Chem.* 274: 25555-25563.
- Tang, B.L. 2001. ADAMTS: a novel family of extracellular matrix proteases. *Int. J. Biochem. Cell Biol.* 33: 33-44.
- Somerville, R.P., et al. 2004. ADAMTS7B, the full-length product of the ADAMTS7 gene, is a chondroitin sulfate proteoglycan containing a mucin domain. *J. Biol. Chem.* 279: 35159-35175.
- Liu, C.J., et al. 2006. ADAMTS-7: a metalloproteinase that directly binds to and degrades cartilage oligomeric matrix protein. *FASEB J.* 20: 988-990.
- Luan, Y., et al. 2008. Inhibition of ADAMTS-7 and ADAMTS-12 degradation of cartilage oligomeric matrix protein by α -2-macroglobulin. *Osteoarthr. Cartil.* 16: 1413-1420.
- Wang, L., et al. 2009. ADAMTS-7 mediates vascular smooth muscle cell migration and neointima formation in balloon-injured rat arteries. *Circ. Res.* 104: 688-698.

CHROMOSOMAL LOCATION

Genetic locus: ADAMTS7 (human) mapping to 15q25.1.

SOURCE

ADAMTS-7 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADAMTS-7 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-163643 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ADAMTS-7 (S-15) is recommended for detection of ADAMTS-7 of 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); non cross-reactive with other ADAMTS family members.

ADAMTS-7 (S-15) is also recommended for detection of ADAMTS-7 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ADAMTS-7 siRNA (h): sc-89955, ADAMTS-7 shRNA Plasmid (h): sc-89955-SH and ADAMTS-7 shRNA (h) Lentiviral Particles: sc-89955-V.

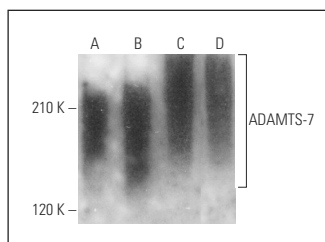
Molecular Weight of ADAMTS-7: 180 kDa.

Positive Controls: human kidney extract: sc-363764, human lung extract: sc-363767 or human ovary extract: sc-363769.

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-7 (S-15): sc-163643. Western blot analysis of ADAMTS-7 expression in human ovary (A), human lung (B), human pancreas (C) and human kidney (D) tissue extracts.

RESEARCH USE

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