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ProductInformation

Anti-ADAMTS-2, C-Terminal
Developed in Rabbit
Affinity Isolated Antibody

Product Number **A 6227**

Product Description

Anti-ADAMTS-2, C-Terminal is developed in rabbit using a synthetic peptide corresponding to the C-terminal of the human ADAMTS-2 as immunogen. Affinity isolated antigen specific antibody is obtained from rabbit anti-ADAMTS-2 antiserum by immuno-specific purification which removes essentially all rabbit serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-ADAMTS-2, C-Terminal may be used for the detection and localization of human ADAMTS (A Disintegrin And Metalloproteinase with Thrombo-Spondin motif). By immunoblotting against the reduced protein, the antibody identifies the zymogen form at 130-140 kDa, activated forms at 94-105 kDa (major bands), and breakdown products at 50 kDa, 34 kDa in cell culture media and lysates.

ADAMTS-2 is a member of the larger family of ADAMs (A Disintegrin And Metalloproteinase) metalloproteinases containing thrombospondin (TS) repeats. ADAMTS-2 (A Disintegrin And Metalloproteinase with ThromboSpondin-2 motif), also known as Procollagen I N-Proteinase (PNP), was first described in calf skin as a proteinase that processes the amino end of Type-I collagen.[1] PNP expression was found in skin, aorta, liver, tendon, bladder, retina, and skeletal muscle. Later, PNP was found to be a member of a larger family of ADAMs metalloproteinases containing thrombospondin (TS) repeats.

Full length human ADAMTS-2 contains 1,211 amino acids (bovine, 1,205 amino acids) and has a predicted mass of 134.7 kDa, but glycosylation and the abundance of cysteine residues gives ADAMTS-2 a greater apparent molecular weight on reduced SDS-PAGE gels. Purified ADAMTS-2 resolves at a lower molecular weight of 107 kDa, due to cleavage at the furin site. ADAMTS-2 contains the canonical HexxHxxxxxH zinc metalloproteinase motif, and has been shown to be proteolytically active, cleaving procollagen. In addition to the metalloprotease domain, ADAMTS-2 has a propeptide domain, a prohormone convertase (PC, furin) cleavage site, a cysteine-rich domain, and three thrombospondin-1 like domains, followed by a unique C-terminal domain. ADAMTS-2 does not have a transmembrane domain, unlike many of the ADAMs proteases, and is a secreted protein, much of which binds to the ECM (extracellular matrix).

ADAMTS-2 knockout mice develop fragile skin (similar to dermatospaxis), and male infertility.[2] Mutations of the ADAMTS2 gene are responsible for human Ehlers-Danlos syndrome type VII C and bovine dermatosparaxis.[3] ADAMTS-2 is involved in collagen biosynthesis and may also play role in development and angiogenesis.[4]

Reagent

Anti-ADAMTS-2, C-Terminal is supplied in phosphate buffered saline (PBS) containing 50% glycerol and 0.05% sodium azide. The protein concentration is approximately 1 mg/ml.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to six months. For extended storage, the solution may be stored –20 °C. Do not store below –22 °C. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

A minimum working antibody dilution of 1:1,000 is determined by immunoblotting a tissue cell lysate using an alkaline phosphatase conjugated secondary antibody and BCIP/NBT as the substrate. A starting antibody dilution of 1:5,000 is recommended for chemiluminescent substrates

Note: Higher antibody dilutions may be necessary for non-human samples. EDTA/EGTA treatment of tissues or lysates is required to see latent zymogen.

In order to obtain the best results and assay sensitivity in various techniques and preparations we recommend determining optimum working dilutions by titration.

References

1. Colige, A., et al., Characterization and partial amino acid sequencing of a 107-kDa procollagen I N-proteinase purified by affinity chromatography on immobilized type XIV collagen. J. Biol. Chem., **270**, 16724-16730 (1995).
2. Li, S.W., et al., Transgenic mice with inactive alleles for procollagen N-proteinase (ADAMTS-2) develop fragile skin and male sterility. Biochem. J., **355**, 271-278 (2001).
3. Tang, B.L., ADAMTS: a novel family of extracellular matrix proteases. Int. J. Biochem. Cell Biol., **33**, 33-44 (2001).
4. Colige, A., et al., cDNA cloning and expression of bovine procollagen I N-proteinase: A new member of the superfamily of zinc-metalloproteinases with binding sites for cells and other matrix components. Proc. Natl. Acad. Sci. USA, **94**, 2374-2379 (1997).

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