

Anti-ADAMTS-4, C-terminal

produced in rabbit, affinity isolated antibody

Catalog Number **A4976**

Product Description

Anti-ADAMTS-4, C-Terminal is produced in rabbit using as immunogen a synthetic peptide corresponding to the C-terminal of human ADAMTS-4. Affinity isolated antigen specific antibody is obtained from rabbit anti-ADAMTS-4 antiserum by immunospecific purification which removes essentially all rabbit serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-ADAMTS-4, C-Terminal may be used for the detection and localization of human ADAMTS-4 (A Disintegrin And Metalloproteinase with Thrombospondin-4 motif). By immunoblotting, the antibody recognizes a band of 110 kDa, consistent with full-length ADAMTS-4. A minor band at 40 kDa is also recognized.

ADAMTS-4 is a member of the metalloproteinases of the ADAM (A Disintegrin And Metalloproteinase) family containing disintegrin-like domains. ADAMTS-4, also known as Aggrecanase-1, was first described as a protein elevated in arthritis.¹ Initial findings indicated a role for ADAMTS-4 in aggrecan cleavage and cartilage destruction, especially in arthritis.² Induction of ADAMTS-4 by LPS (lipopolysaccharide), IL-1, and retinoic acid suggests the possibility that ADAMTS-4 could be involved in inflammation and its role in arthritis. Aggrecan, versican, and brevican are all cleaved by ADAMTS-4, and specific inhibition of ADAMTS-4 appears to block degradation of these matrix components. It is suggested that the up-regulation of ADAMTS-4 during endothelial tube formation implies a potential role in the metabolism of vascular proteoglycans, such as versican and other components of the basement membrane.³ ADAMTS-4 has been implicated in angiogenesis.

ADAMTS-4 contains the canonical HEXXHxxxxH zinc metalloproteinase motif, and has been shown to be proteolytically active on a range of substrates. It is inhibited by the endogenous MMP inhibitors (TIMP-1, 2, 3, and 4), but most efficiently by TIMP-3 (IC₅₀ = 7.9 nM). In addition to the metalloprotease

domain, ADAMTS-4 has a propeptide domain, a Prohormone Convertase (PC, furin) cleavage site, a cysteine-rich domain and thrombospondin-1 like domains. ADAMTS-4, a secreted protein, does not have a transmembrane domain, unlike many of the ADAMTs proteases.

Reagent

Supplied in phosphate buffered saline containing 50% glycerol and 0.05% sodium azide.
Protein concentration: ~1 mg/mL.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For extended storage, the solution may be aliquoted and stored -20 °C. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Immunoblotting: a working dilution of 1:200-1:500 is recommended using lysates of primary human chondrocytes differentiated in alginate beads in the presence of TGFβ.

Note: 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. Tortorella, M.D., et al., *Science*, **284**, 1664-1666 (1999).
2. Tortorella, M.D., et al., *J. Biol. Chem.*, **275**, 18566-18573 (2000).
3. Kahn, M.J., et al., *Amer. J. Path.*, **156**, 1887-1900 (2000).

KAA,PHC 10/07-1