3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Anti-ADAM-13, Propeptide Region
Developed in Rabbit
Affinity Isolated Antibody

Product Number **A 7102**

Product Description

Anti-ADAM-13, Propeptide Region is developed in rabbit using a synthetic peptide corresponding to the amino end of *Xenopus* ADAM13 (A Disintegrin And Metalloproteinase-13) as immunogen. Affinity isolated antigen specific antibody is obtained from rabbit anti-ADAM-13 antiserum by immuno-specific purification which removes essentially all rabbit serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-ADAM-13, Propeptide Region may be used for the detection and localization of ADAM-13. By immunoblotting against the reduced protein, the antibody recognizes bands at 120 kDa (minor band), 92 kDa (major band), and cleaved products at 68 kDa, 40 kDa in cell lysates.

ADAM13, also known as A Disintegrin And Metalloproteinase-13 and X-ADAM-13, is a member of the metalloproteinase family containing disintegrin-like domains (ADAMs). It was first described as a protein expressed in somatic mesoderm and neural crest cells in developing *Xenopus* embryos.[1, 2] ADAM13 was also found in liver, heart, and intestines from adult *Xenopus*. Other papers investigated SH3 ligand domains in the cytoplasmic portion of ADAM13, demonstrating regulation routes for ADAM13 via Src and Src tyrosine kinase. ADAM13 may also act as a cell-attachment molecule, by binding integrins through the cysteine-rich domain. ADAM13 plays a critical role in neural crest-cell migration.[3]

ADAM13 contains the canonical HExxHxxxxxH zinc metalloproteinase motif, as well as disintegrin, cysteine-rich, EFG-like, transmembrane and cytoplasmic domains. It has been shown that ADAM13 is proteolytically active, cleaving fibronectin after binding to the EGF-like domain.[4] ADAM13 is also shed from cells in culture, cleaved N-terminally from the transmembrane domain, and released into the culture media. Shed ADAM13 is a 52 kDa protein, and forms complexes with α2-macroglobulin, suggesting that it is a competent protease. *Xenopus* ADAM13 has the greatest homology with human ADAM33 (51% identical), and is 46% identical with human or mouse ADAM12 or ADAM19. It is unclear if any of these ADAMs (ADAM12, ADAM19, or ADAM33) are species orthologs of *Xenopus* ADAM13, but there are significant differences between the related sequences, suggesting that ADAM13 may be a unique protein. Full length *Xenopus* ADAM13 is a 914 amino acid protein with a predicted mass is 99.7 kDa. Glycosylation and cyteine-rich regions give *Xenopus* ADAM13 an apparent molecular weight of 120 kDa (unprocessed) and 97 kDa (processed) on reduced SDS PAGE gels. ADAM13 contains a putative furin cleavage site, suggesting that a prohormone convertase cleaves the propeptide domain away from the catalytic domain.

Reagent

Anti-ADAM-13, Propeptide Region is supplied in phosphate buffered saline 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

By immunoblotting, a minimum working antibody dilution of 1:1,000 is recommended using an alkaline phosphatase conjugated secondary antibody and BCIP/NBT as the substrate. A starting antibody dilution of 1:5,000 of the antibody is recommended for chemi-luminescent substrates

Note: Higher antibody dilutions may be necessary for non-human samples.

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. Alfandari, D., et al., ADAM 13: a novel ADAM expressed in somatic mesoderm and neural crest cells during *Xenopus laevis* development. Dev. Biol., **82**, 314-330 (1997).
2. Cai, H., et al., Neural crest-specific and general expression of distinct metalloprotease-disintegrins in early *Xenopus laevis* development. Dev. Biol., **204**, 508-524 (1998).
3. Alfandari, D., et al., *Xenopus* ADAM 13 is a metalloprotease required for cranial neural crest-cell migration. Curr. Biol., **11**, 918-930 (2001).
4. Gaultier, A., et al., ADAM13 disintegrin and cysteine-rich domains bind to the second heparin-binding domain of fibronectin. J. Biol. Chem., **277**, 23336-23344 (2002).

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