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-33, Catalytic Domain
Developed in Rabbit
Affinity Isolated Antibody

Product Number **A 7477**

Product Description

Anti-ADAM-33, Catalytic Domain is developed in rabbit using a synthetic peptide corresponding to the amino end of active human ADAM33 (A Disintegrin And Metalloproteinase-33) as immunogen. Affinity isolated antigen specific antibody is obtained from rabbit anti-ADAM-33 antiserum by immuno-specific purification which removes essentially all rabbit serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-ADAM-33, Catalytic Domain may be used for the detection and localization of ADAM-33. By immunoblotting against the reduced protein, the antibody recognizes bands at 99 kDa (minor band), 58 kDa (major band), and cleaved products in cell lysates.

ADAM33, also known as A Disintegrin And Metallo-proteinase-33, is a member of the metalloproteinase family containing disintegrin-like domains (ADAMs). ADAM33 was first described from mouse brain as an ADAM protease. Both human and mouse ADAM33 were cloned, sharing approximately 70% sequence identity and 44% identity with *Xenopus* ADAM-13 (thought to be a species orthologue).[1, 2] A second sequence of ADAM33, alternatively spliced, has been reported for both human and mouse. The smaller sequence lacks exon #17, leading to a shorter EGF-like domain.

ADAM33 appears to be widely expressed and found in most organs. Testis showed a smaller expression than other tissues and may represent a truncated form of ADAM33. Unlike ADAM13, ADAM33 does not contain the SH3 ligand domains in the cytoplasmic portion and thus may be regulated differently.[2] ADAM33 may also act as a cell-attachment molecule, by binding integrins through the cysteine-rich domain. Recent work suggests that mutations in ADAM33 may be linked to asthma[3, 4] and that many of the mutations generate new cysteine residues, which may disturb the function of ADAM33.

ADAM-33 contains the canonical HExxHxxxxxH zinc metalloproteinase motif, as well as disintegrin, cysteine-rich EGF-like transmembrane, and cytoplasmic domains. ADAM-33 contains a putative furin cleavage site, suggesting that a prohormone convertase cleaves the propeptide domain away from the catalytic domain. Full length human ADAM33 contains 813 amino acids with a predicted mass is 87.7 kDa. Due to glycosylation and the cyteine-rich regions, ADAM-33 has an apparent molecular weight of 99 kDa on reduced SDS PAGE. The smaller sequence of human ADAM33 contains 728 amino acids with a predicted mass of 78.3 kDa (zymogen). Mouse sequences of ADAM33 contain 797 and 685 amino acids with predicted molecular masses of 87 and 74.7 kDa, respectively, before posttranslational modifications.

The gene for ADAM33 maps to chromosome 20 (20p13) in humans and chromosome 2 in mouse.[1, 2]

Reagent

Anti-ADAM-33, Catalytic Domain 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 aliquoted and stored at –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 is recommended for chemiluminescent 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 the optimum working dilution by titration.

References

1. Yoshinaka, T., et al., Identification and characterization of novel mouse and human ADAM33s with potential metalloprotease activity. Gene, **282**, 227 (2002).
2. Gunn, T.M., et al., Identification and preliminary characterization of mouse *Adam33*. BMC Genet., **3**, 2 (2002).
3. Van Eerdewegh, P., et al., Association of the *Adam33* gene with asthma and bronchial hyperresponsiveness. Nature, **418**, 426 (2002).
4. Garlisi, C.G., et al., Human ADAM33: protein maturation and localization. Biochem. Biophys. Res. Commun., **301**, 35 (2003).

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