SANTA CRUZ BIOTECHNOLOGY, INC.

AMPD2 (QQ13): sc-100504

BACKGROUND

Adenosine monophosphate (AMP) deaminase is a cytosolic enzyme responsible for the hydrolytic deamination of AMP to inosine monophosphate (IMP) and NH3. AMP deaminase functions as a homotetramer and participates in the purine nucleotide cycle, playing an important role in energy metabolism. Three differentially expressed isozymes of AMP deaminase exist in mammals, namely AMPD1, AMPD2 and AMPD3, and they differ among their N-terminal domains while sharing a conserved C-terminal catalytic domain. AMPD1 is expressed in skeletal muscle; AMPD2 is found in undifferentiated myoblasts, smooth muscle, embryonic muscle and non-muscle tissue; and AMPD3 is expressed in erythrocytes. AMPD2 (adenosine monophosphate deaminase 2, isoform L), also known as liver-type AMP deaminase, is a member of the adenosine and AMP deaminases family and is involved in the degradation of adenylic acid in human term placenta. Due to alternative splicing of the gene, four isoforms exist for AMPD2.

REFERENCES

1. Van den Bergh, F. and Sabina, R.L. 1995. Characterization of human AMP deaminase 2 (AMPD2) gene expression reveals alternative transcripts encoding variable N-terminal extensions of isoform L. Biochem. J. 312: 401-410.
2. Mahnke-Zizelman, D.K., et al. 1996. Cloning, sequence and characterization of the human AMPD2 gene: evidence for transcriptional regulation by two closely spaced promoters. Biochim. Biophys. Acta 1308: 122-132.
3. Mahnke-Zizelman, D.K., et al. 1997. Regulation of rat AMP deaminase 3 (isoform C) by development and skeletal muscle fibre type. Biochem. J. 326: 521-529.
4. Toledo, F., Lachagès, A.M., et al. 1999. Initiation of DNA replication at the Chinese hamster origin oriGNAI3 relies on local sequences and/or chromatin structures, but not on transcription of the nearby GNAI3 gene. Nucleic Acids Res. 27: 1600-1608.
5. Mahnke-Zizelman, D.K. and Sabina, R.L. 2001. Localization of N-terminal sequences in human AMP deaminase isoforms that influence contractile protein binding. Biochem. Biophys. Res. Commun. 285: 489-495.
6. Haas, A.L. and Sabina, R.L. 2003. N-terminal extensions of the human AMPD2 polypeptide influence ATP regulation of isoform L. Biochem. Biophys. Res. Commun. 305: 421-427.
7. Haas, A.L. and Sabina, R.L. 2003. Expression, purification, and inhibition of *in vitro* proteolysis of human AMPD2 (isoform L) recombinant enzymes. Protein Expr. Purif. 27: 293-303.
8. Szydlowska, M., et al. 2004. Full-size form of human liver AMP-deaminase? Mol. Cell. Biochem. 266: 133-137.

CHROMOSOMAL LOCATION

Genetic locus: AMPD2 (human) mapping to 1p13.3.

SOURCE

AMPD2 (QQ13) is a mouse monoclonal antibody raised against recombinant AMPD2 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AMPD2 (QQ13) is recommended for detection of AMPD2 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:100-1:5000).

Suitable for use as control antibody for AMPD2 siRNA (h): sc-78844, AMPD2 shRNA Plasmid (h): sc-78844-SH and AMPD2 shRNA (h) Lentiviral Particles: sc-78844-V.

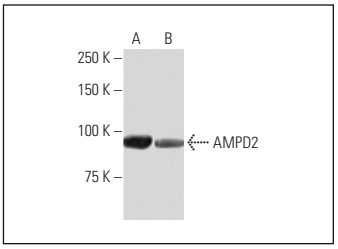
Molecular Weight of AMPD2: 92 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or human AMPD2 transfected 293T whole cell lysate.

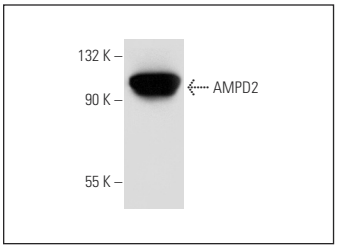
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



AMPD2 (QQ13): sc-100504 Western blot analysis of AMPD2 expression in human AMPD2 transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.



AMPD2 (QQ13): sc-100504. Western blot analysis of AMPD2 expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Ehlers, L., et al. 2021. Surface AMP deaminase 2 as a novel regulator modifying extracellular adenine nucleotide metabolism. FASEB J. 35: e21684.

STORAGE

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

RESEARCH USE

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