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., 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.


## 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.

## STORAGE

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

## APPLICATIONS

AMPD2 (QQ13) is recommended for detection of AMPD2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

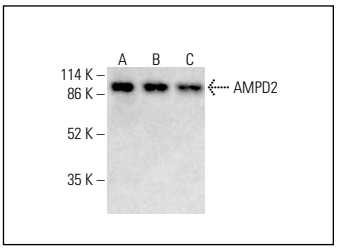
Molecular Weight of AMPD2: 92 kDa.

Positive Controls: HCT-116 whole cell lysate: sc-364175 HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

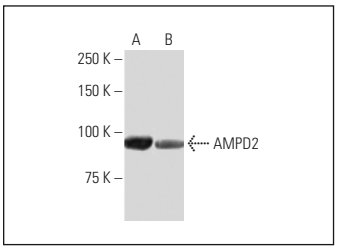
## RECOMMENDED SUPPORT REAGENTS

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 HeLa (**A**), K-562 (**B**) and HCT-116 (**C**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.




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

## SELECT PRODUCT CITATIONS


1. Bayat, V., et al. 2012. Mutations in the mitochondrial methionyl-tRNA synthetase cause a neurodegenerative phenotype in flies and a recessive ataxia (ARSAL) in humans. PLoS Biol. 10: e1001288.
2. Ehlers, L., et al. 2021. Surface AMP deaminase 2 as a novel regulator modifying extracellular adenine nucleotide metabolism. FASEB J. 35: e21684.
3. Ehlers, L., et al. 2022. The anti-glucocorticoid receptor antibody clone 5E4: raising awareness of unspecific antibody binding. Int. J. Mol. Sci. 23: 5049.
4. Zhang, W.C., et al. 2022. MicroRNA-21 guide and passenger strand regulation of adenylosuccinate lyase-mediated purine metabolism promotes transition to an EGFR-TKI-tolerant persister state. Cancer Gene Ther. 29 : 1878-1894.


## RESEARCH USE

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