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AMPK γ 2 (m): 293T Lysate: sc-118382

BACKGROUND

AMPK (for 5'-AMP-activated protein kinase) is a heterotrimeric complex comprising a catalytic α subunit and regulatory β and γ subunits. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. AMPK is activated by high AMP and low ATP through a mechanism involving allosteric regulation, promotion of phosphorylation by an upstream protein kinase known as AMPK kinase, and inhibition of dephosphorylation. Activated AMPK can phosphorylate and regulate *in vivo* hydroxy-methylglutaryl-CoA reductase and acetyl-CoA carboxylase, which are key regulatory enzymes of sterol synthesis and fatty acid synthesis, respectively. The human AMPK α 1 and AMPK α 2 genes encode 548 amino acid and 552 amino acid proteins, respectively. Human AMPK β 1 encodes a 271 amino acid protein and human AMPK β 2 encodes a 272 amino acid protein. The human AMPK γ 1 gene encodes a 331 amino acid protein. Human AMPK γ 2 and AMPK γ 3, which are 569 and 492 amino acid proteins, respectively, contain unique N-terminal domains and may participate directly in the binding of AMP within the AMPK complex.

REFERENCES

1. Stapleton, D., et al. 1996. Mammalian AMP-activated protein kinase subfamily. *J. Biol. Chem.* 271: 611-614.
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3. Hardie, D.G., et al. 1997. The AMP-activated protein kinase-fuel gauge of the mammalian cell? *Eur. J. Biochem.* 246: 259-273.
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5. Online Mendelian Inheritance in Man, OMIMTM. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602739. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Cheung, P.C., et al. 2000. Characterization of AMP-activated protein kinase γ subunit isoforms and their role in AMP binding. *Biochem. J.* 346: 659-669.

CHROMOSOMAL LOCATION

Genetic locus: Prkag2 (mouse) mapping to 5 A3.

PRODUCT

AMPK γ 2 (m): 293T Lysate represents a lysate of mouse AMPK γ 2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

AMPK γ 2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive AMPK γ 2 antibodies. Recommended use: 10-20 μ l per lane.

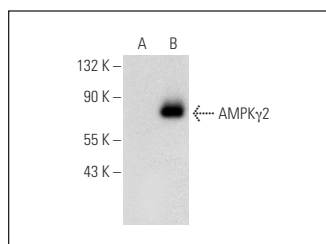
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

AMPK γ 2 (F-2): sc-398804 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse AMPK γ 2 expression in AMPK γ 2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



AMPK γ 2 (F-2): sc-398804. Western blot analysis of AMPK γ 2 expression in non-transfected: sc-117752 (**A**) and mouse AMPK γ 2 transfected: sc-118382 (**B**) whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.