

AMPK β 2 (H-75): sc-20164

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* hydroxymethylglutaryl-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.

CHROMOSOMAL LOCATION

Genetic locus: PRKAB2 (human) mapping to 1q21.1; Prkab2 (mouse) mapping to 3 F2.2.

SOURCE

AMPK β 2 (H-75) is a rabbit polyclonal antibody raised against amino acids 1-75 mapping at the N-terminus of AMPK β 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AMPK β 2 (H-75) is recommended for detection of AMPK β 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AMPK β 2 (H-75) is also recommended for detection of AMPK β 2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for AMPK β 2 siRNA (h): sc-38927, AMPK β 2 siRNA (m): sc-38928, AMPK β 2 shRNA Plasmid (h): sc-38927-SH, AMPK β 2 shRNA Plasmid (m): sc-38928-SH, AMPK β 2 shRNA (h) Lentiviral Particles: sc-38927-V and AMPK β 2 shRNA (m) Lentiviral Particles: sc-38928-V.

Molecular Weight of AMPK β 2: 45 kDa.

Positive Controls: AMPK β 2 (h): 293T Lysate: sc-116459, HeLa whole cell lysate: sc-2200 or rat skeletal muscle extract: sc-364810.

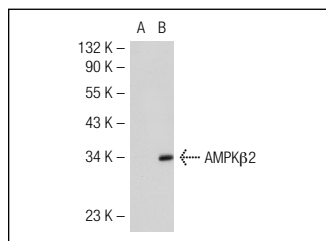
RESEARCH USE

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

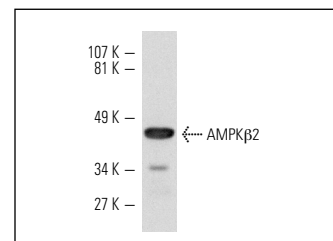
STORAGE

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

DATA



AMPK β 2 (H-75): sc-20164. Western blot analysis of AMPK β 2 expression in non-transfected: sc-117752 (A) and human AMPK β 2 transfected: sc-116459 (B) 293T whole cell lysates.



AMPK β 2 (H-75): sc-20164. Western blot analysis of AMPK β 2 expression in rat skeletal muscle tissue extract.

SELECT PRODUCT CITATIONS

- Xie, M., et al. 2006. A pivotal role for endogenous TGF- β -activated kinase-1 in the LKB1/AMP-activated protein kinase energy-sensor pathway. *Proc. Natl. Acad. Sci. USA* 103: 17378-17383.
- Cammisotto, P.G., et al. 2008. Control of glycogen synthase through ADI-POR1-AMPK pathway in renal distal tubules of normal and diabetic rats. *Am. J. Physiol. Renal Physiol.* 294: F881-F889.
- Okoshi, R., et al. 2011. Expression of 5'-AMP-activated protein kinase with starvation in murine thymocytes. *Bull. Tokyo Dent. Coll.* 52: 21-29.
- Kim, Y.C. and Day, R.M. 2012. Angiotensin II regulates activation of Bim via Rb/E2F1 during apoptosis: involvement of interaction between AMPK β 1/2 and Cdk4. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 303: L228-L238.

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **AMPK β 2 (C-7): sc-376752** or **AMPK β 2w (F-8): sc-376897**, our highly recommended monoclonal alternatives to AMPK β 2 (H-75).