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Product Data Sheet

Purified anti-AMPKα

Catalog # / Size: 649801 / 50 µl (5 Western blots)
649802 / 200 µl (20 Western blots)

Clone: Poly6498

Isotype: Rabbit IgG

Immunogen: AMPK catalytic subunit (α subunit)

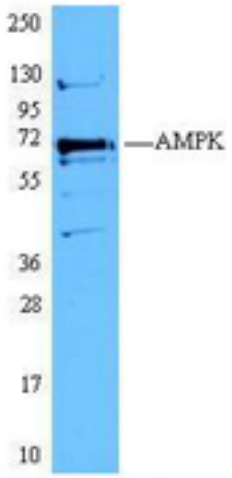
Reactivity: Human

Preparation: The antibody was purified by affinity chromatography.

Formulation: This antibody is provided in phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 50% glycerol.

Concentration: 0.5 mg/ml

Storage: Upon receipt, store undiluted at -20°C.



293T cell extracts were resolved by electrophoresis, transferred to nitrocellulose, and probed with purified polyclonal anti-AMPK antibody. Proteins were visualized using a donkey anti-rabbit-IgG secondary conjugated to HRP and chemiluminescence detection.

Applications:

Applications: WB - *Quality tested*

Recommended Usage: Each lot of this antibody is quality control tested by Western blotting. Western blotting, suggested working dilution(s): Use 10 µl per 5 ml antibody dilution buffer for each mini-gel. It is recommended that the reagent be titrated for optimal performance for each application.

Application Notes: This polyclonal antibody is useful in detecting the AMPKα subunit by Western blot.

Description: AMP-activated protein kinase (AMPK) is highly conserved from yeast to plants and animals and plays a key role in the regulation of energy homeostasis. AMPK is a heterodimeric protein serine/threonine kinase that is composed of alpha- (catalytic) and beta/gamma- (regulatory) subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. This catalytic subunit contains a classical serine/threonine protein kinase domain close to the N-terminal. Free catalytic α subunits are usually inactive due to the presence of an autoinhibitory domain that is located in the center of this subunit. When the α subunit forms a functional complex with the β and γ subunits, this autoinhibitory function no longer blocks the catalytic function. In response to cellular metabolic stresses, AMPK is activated in an AMP-dependent manner by targeted phosphorylation of Thr172 in the α subunit by the upstream kinase like LKB1, calmodulin-dependent protein kinase kinases and transforming growth factor-β-activated kinase-1. Activated AMPK phosphorylates many metabolic enzymes to stimulate catabolic pathways, such as ketogenesis, and inhibit anabolic pathways, such as protein synthesis. Recent studies also suggest the important role of AMPK in regulating chemotaxis and cytokine secretion in immune cells.

Other Names: AMPK, AMP-activated protein kinase, 5' adenosine monophosphate-activated protein kinase, 5'-AMP-activated protein kinase

Antigen References:
1. Hawley SA, *et al.* 1996. *J. Biol. Chem.* 271:27879.
2. Hardie DG, *et al.* 2004. *J. Cell. Sci.* 117:5479.
3. Woods A, *et al.* 2003 *J. Biol. Chem.* 278:28434.
4. Neumeier M, *et al.* 2006. *J. Leukoc. Biol.* 79:800.
5. Guest CB, *et al.* 2008. *BMC. Immunol.* 9:42.
6. Gruzman A, *et al.* 2009. *Rev. Diabet. Stud.* 6:13.

Related Products:

Product	Clone	Application
HRP Donkey anti-rabbit IgG (minimal x-reactivity)	Poly4064	ELISA, IHC, WB

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