For Research Use Only

Phospho-AMPK Alpha (Thr172) Recombinant monoclonal antibody

Catalog Number:80209-6-RR 2 Publications

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Basic Information

Catalog Number:
80209-6-RR

Size:
100ul , Concentration: 1000 μg/ml by Nanodrop;

Source:
Rabbit

Isotype:
IgG

GenBank Accession Number:
BC048980

GeneID (NCBI):
5562

UNIPROT ID:
Q13131

Full Name:
protein kinase, AMP-activated, alpha 1 catalytic subunit

Observed MW:
64 kDa

Purification Method:
Protein A purification

CloneNo.:
242923D4

Recommended Dilutions:
WB: 1:1000-1:6000

Applications

Tested Applications:
WB, ELISA

Cited Applications:
WB

Species Specificity:
human, mouse

Cited Species:
human, mouse

Positive Controls:

WB : H2O2 treated C2C12 cells, λ phosphatase treated HEK-293 cells

Background Information

AMPK is a serine/threonine protein kinase complex consisting of a catalytic α-subunit (α1 and α2), a scaffolding β-subunit (β1 and β2), and a regulatory γ -subunit (γ 1, γ 2, and γ 3). Ubiquitous expression of AMPKα1-, β1-, and γ 1-subunits in many tissues makes the α1β1γ 1 complex a reference for AMPK assays to identify AMPK activators. AMPK is generally quiescent under normal conditions but is activated in response to signals and stresses that increase the AMP/ATP ratio, such as hypoglycemia, strenuous exercise, anoxia, and ischemia. An increase in the ratio of AMP/ATP activates AMPK by several mechanisms, including direct allosteric activation and covalent modification in which an AMP-dependent AMPK kinase (AMPKK) phosphorylates the α subunit on Thr172. Once activated, AMPK switches on catabolic pathways that generate ATP, while switching off ATP-consuming processes (e.g., biosynthesis, cell growth, and proliferation), and in doing so acts as an "energy gauge". (PMID: 27034026, PMID: 21980456, PMID: 27600021)
This antibody can recognize the phosphorylation sites of Thr183 in AMPK Alpha 1 and Thr172 in AMPK Alpha 2.

Notable Publications

Author	Pubmed ID	Journal	Application
Cheng Yu	40500724	Mol Med	WB
Yongmei Zhang	40450199	BMC Cardiovasc Disord	WB

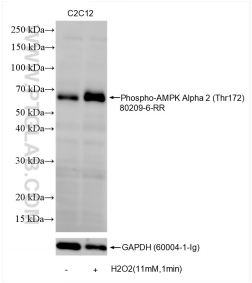
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

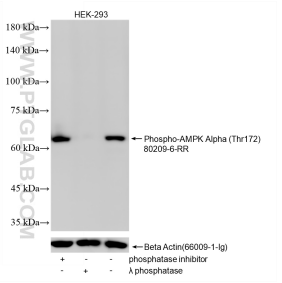
*** 20ul sizes contain 0.1% BSA

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

Selected Validation Data



Non-treated C2C12 cells and H2O2 treated C2C12 cells were subjected to SDS PAGE followed by western blot with 80209-6-RR (Phospho-AMPK Alpha (Thr172) antibody) at dilution of 1:3000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with GAPDH (60004-1-Ig) antibody as a loading control.



Non-treated, phosphatase inhibitor treated and λ phosphatase treated HEK-293 cells were subjected to SDS PAGE followed by western blot with 80209-6-RR (Phospho-AMPK Alpha (Thr172) antibody) at dilution of 1:3000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with Beta Actin (66009-1-Ig) antibody as a loading control.