

Anti-Phospho-AMPK α (Thr172)

Polyclonal Antibody

Cat. # 07-626

Lot # NRG1640809

pack size: 100 μ g

Store at 2-8°C

FOR RESEARCH USE ONLY



Certificate of Analysis

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Applications	Species Cross-Reactivity	Antibody Isotype	Epitope/Region	Host Species	Molecular Weight	Accession #
WB	H, (M, R, Eq, Ch, B)	N/A	phosphorylated Thr172	Rb	62 kDa	NP_996790

Background

AMP-activated protein kinase (AMPK) is a metabolic and stress-sensing kinase that regulates homeostasis, and a key target for treating Type 2 diabetes and obesity. AMPK exists as a heterotrimeric complex comprised of catalytic alpha subunits (62 kDa) and non-catalytic beta and gamma subunits. The Alpha subunit has at least two isoforms (alpha 1 and alpha 2) that differ in their subcellular localization and AMP-dependence. AMPK is phosphorylated by upstream kinases, AMPK Kinase (AMPKK) and LKB1 which results in its activation. Active AMPK regulates metabolism by phosphorylating rate-limiting enzymes in metabolic pathways and controlling gene expression. Phosphorylation of threonine 172 in the activation loop of the alpha subunit is a key determinant of AMPK activity.

Presentation

Purified rabbit polyclonal serum in buffer containing 0.1 M Tris-glycine, pH 7.4, 150 mM NaCl and 0.05% sodium azide.

Concentration

1 mg/mL

Specificity

This antibody recognizes AMPK α .

Species Cross-reactivity

Proven to react with human. Predicted to react with mouse, rat, chicken, horse, and cow based on sequence homology.

Immunogen

KLH-conjugated, synthetic peptide corresponding to amino acids surrounding phosphorylated Thr172 of human AMP-activated protein kinase alpha 2 (AMPK α 2). The immunogenic site is conserved in AMPK α 1, isoform 1 (Thr174), AMPK α 1, isoform 2 (Thr189), and AMPK α 2 (Thr172).

Molecular Weight

62 kDa

Method of Purification

Affinity Purified

Storage and Handling

Maintain refrigerated at 2-8°C for 1 year from date of receipt.

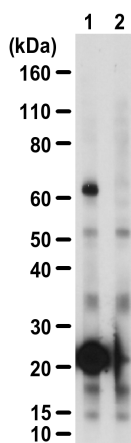
Control

HEK293 cell lysate

Quality Control Testing

Evaluated by Western Blot in serum starved and serum starved, Lambda dephosphorylated HEK293 cell lysate.

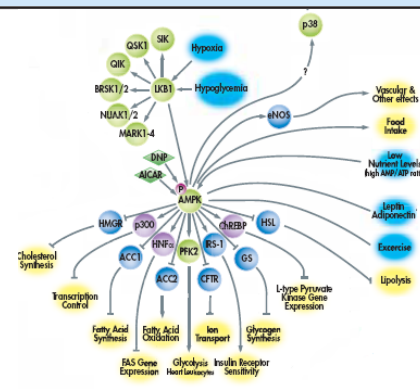
Western Blot Analysis: A 1:500 dilution of this antibody detected AMPK α in serum starved and serum starved, Lambda dephosphorylated HEK293 cell lysate.



Western Blot Analysis:

Representative lot data. Serum Starved HEK293 cell lysate (lane 1) and serum starved, Lambda Dephosphorylated HEK293 cell lysate was resolved by electrophoresis, transferred to PVDF and probed with Anti-Phospho-AMPK α (Thr172) (1:500). Proteins were visualized using a donkey anti-rabbit secondary antibody conjugated to HRP and a chemiluminescence detection system.

Arrow indicates Phospho-AMPK α (Thr 172) (~62 kDa)



General Reference

1. Chen, Z-P., et al. (1999). FEBS Lett. 443: 285.

APPLICATION LEGEND: WB Western Blotting IP Immunoprecipitation IC Immunocytochemistry IF Immunofluorescence IH Immunohistochemistry (Tissue)

SPECIES LEGEND: H Human M Mouse R Rat Rb Rabbit Eq Equine Ch Chicken B Bovine () Predicted Reactivity

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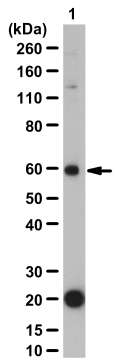
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Additional Research Applications:

Western Blot (SNAP ID) Analysis:



Western Blot (SNAP ID) Analysis:
Representative lot data.
Serum Starved HEK293 cell lysate was resolved by electrophoresis, transferred to PVDF and probed with Anti-Phospho-AMPK α (Thr172) (1:500). Proteins were visualized using a SNAP ID, a donkey anti-rabbit secondary antibody conjugated to HRP and a chemiluminescence detection system.

Arrow indicates Phospho-AMPK α (Thr172) (~62 kDa)

PROTOCOL

Western Blot

1. Perform SDS-polyacrylamide gel electrophoresis (SDS-PAGE) on cell lysate and transfer the proteins to a PVDF membrane. Wash the PVDF membrane twice with water.
2. Block the blotted PVDF membrane in freshly prepared 5% BSA or milk with 0.05% Tween[®]-20 for 1 hour at room temperature with constant agitation.
3. Incubate the PVDF with the recommended dilution of Anti-Phospho-AMPK α (Thr172), diluted in freshly prepared 5% BSA or milk for 1 hour at room temperature or overnight with agitation at 2-8°C.
4. Wash the PVDF 3 times with TBST.
5. Incubate the PVDF in the secondary reagent of choice (a donkey anti-rabbit HRP conjugated IgG, Catalog # AP182P 1:1000 dilution was used) in 5% milk for 1 hour with agitation at room temperature.
6. Wash the PVDF 3-5 times with TBST.
7. Use Spray and Glow Catalog # 17-373 to visualize results. Use as directed.

RELATED PRODUCTS (specific)

cat #	description
15-114	■ AMPK/ ACC Energy Pathway Explorer Sample Antibody Sample Pack
15-115	■ AMPK Pathway Explorer Sample Antibody Sample Pack
07-681	■ Anti-phospho-AMPK α 1 (Thr172)
07-363	■ Anti-AMPK α 2
07-181	■ Anti-AMPK α -pan
12-480	■ AMPK α -pan Immunizing Peptide
07-626	■ Anti-phospho-AMPK α (Thr172)
14-305	■ AMPK, active
07-670	■ Anti-AMPK β
04-323	■ Anti-AMPK α 1, Rabbit Monoclonal
04-324	■ Anti-AMPK β 1, Rabbit Monoclonal
07-676	■ Anti-QSK
07-694	■ Anti-LKB1
07-303	■ Anti-phospho-Acetyl CoA Carboxylase (Ser79)

RELATED PRODUCTS (non-specific)

cat #	description
WBAVDBASE	■ SNAP i.d. Protein Detection System
WBAVDABTR	■ SNAP i.d. Antibody Collection Tray
WBAVDR0LL	■ SNAP i.d. Blot Roller
WBAVDBH03	■ SNAP i.d. Triple Well Blot Holder
WBAVDBH01	■ SNAP i.d. Single Well Blot Holder
WBAVDBH02	■ SNAP i.d. Double Well Blot Holder
IPVH00010	■ Immobilon-P 26.5 cm x 3.75 m Roll PVDF 0.45 μ m
IPFL00010	■ Immobilon-FL 26.5 cm x 3.75 m Roll PVDF 0.45 μ m
IPVH07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.45 mm (sheet) 50/pk
ISEQ00010	■ Immobilon-P SQ 26.5 cm x 3.75 m 1 roll PVDF 0.2 μ m
ISEQ07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.2 mm (sheet) 50/pk
IPFL07810	■ Immobilon-FL 7 x 8.4 cm PVDF 0.45 mm (sheet) 10/pk
WBKLS0100	■ Immobilon Western Chemilum HRP Substrate 100 mL
17-373	■ Spray & Glow [™] ECL WB Detection System 1 ea
2060	■ Re-Blot Western Blot Recycling Kit
2500	■ Re-Blot Plus Western Blot Recycling Kit
B2080-175GM	■ Blot Quick Blocker Membrane Blocking Agent 175G

■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

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