Human/Mouse/Rat AMPKα1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3197

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat AMPKα1 in Western blots. The antibody does not cross-react with recombinant human AMPKα2.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human AMPKα1 Lys349-Gln559 Accession # Q13131
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

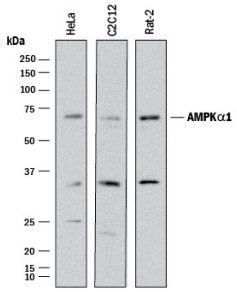
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

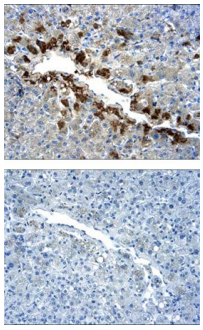
DATA

Western Blot



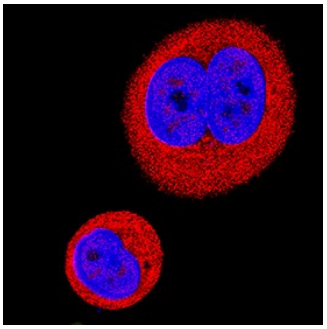
Detection of Human. Mouse, and Rat AMPKα1 by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, C2C12 mouse myoblast cell line, and Rat-2 rat embryonic fibroblast cell line. PVDF membrane was probed with 2 µg/mL of Goat Anti-Human/Mouse/Rat AMPKα1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3197) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for AMPKα1 at approximately 70 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



AMPKα1 in Human Liver. AMPKα1 was detected in immersion fixed paraffin-embedded sections of human liver using 5 µg/mL Goat Anti-Human/Mouse/Rat AMPKα1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3197) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows secondary antibody only control experiment. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunocytochemistry



AMPKα1 in MCF-7 Human Cell Line. AMPKα1 was detected in immersion fixed MCF-7 human breast cancer cell line using Goat Anti-Human/Mouse/Rat AMPKα1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3197) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to nuclei and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

AMP-activated protein kinase (AMPK) is a heterotrimeric complex consisting of a catalytic α subunit and regulatory β and γ subunits. Each subunit exists as alternate isoforms (α1, α2, β1, β2, γ1, γ2, γ3), with all 12 combinations able to form complexes. The catalytic α subunit of AMPK is activated allosterically by AMP, and by phosphorylation via the AMPK kinases LKB1 and CaMKKβ. AMPK's role in metabolic regulation has implicated this serine/threonine kinase as a therapeutic target in heart disease, obesity, and diabetes.

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