

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat AMPK $\alpha$ 2 in Western blots. In Western blots, less than 1% cross-reactivity with recombinant human AMPK $\alpha$ 1 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human AMPK $\alpha$ 2 Phe340-Arg552 Accession # P54646
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m 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 $\mu$ m filtered solution in PBS.

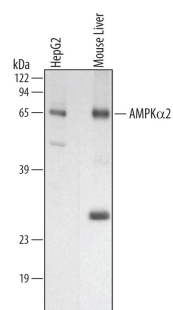
## APPLICATIONS

**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
<b>Western Blot</b>	1 $\mu$ g/mL	See Below
<b>Immunocytochemistry</b>	5-15 $\mu$ g/mL	See Below
<b>Immunohistochemistry</b>	5-15 $\mu$ g/mL	Perfusion fixed frozen sections of mouse liver
<b>Simple Western</b>	10 $\mu$ g/mL	See Below

## DATA

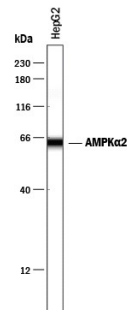
### Western Blot



#### Detection of Human and Mouse AMPK $\alpha$ 2 by Western Blot.

Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line and mouse liver tissue. PVDF membrane was probed with 1  $\mu$ g/mL of Goat Anti-Human/Mouse/Rat AMPK $\alpha$ 2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2850) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for AMPK $\alpha$ 2 at approximately 63 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

### Simple Western

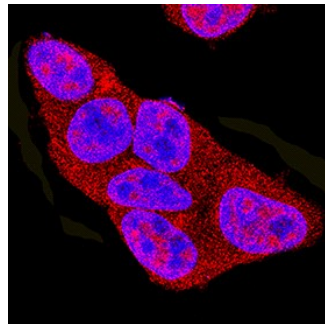


#### Detection of Human AMPK $\alpha$ 2 by Simple Western™.

Simple Western lane view shows lysates of HepG2 human hepatocellular carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for AMPK $\alpha$ 2 at approximately 63 kDa (as indicated) using 10  $\mu$ g/mL of Goat Anti-Human/Mouse/Rat AMPK $\alpha$ 2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2850) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



### Immunocytochemistry



#### AMPK $\alpha$ 2 in HEK293 Human Cell Line.

AMPK $\alpha$ 2 was detected in immersion fixed HEK293 human embryonic kidney cell line using Goat Anti-Human/Mouse/Rat AMPK $\alpha$ 2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2850) at 5  $\mu$ g/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

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

AMP-activated protein kinase (AMPK) is a heterotrimeric complex consisting of a catalytic  $\alpha$  subunit and regulatory  $\beta$  and  $\gamma$  subunits. Each subunit exists as alternate isoforms ( $\alpha$ 1,  $\alpha$ 2,  $\beta$ 1,  $\beta$ 2,  $\gamma$ 1,  $\gamma$ 2,  $\gamma$ 3), with all 12 combinations able to form complexes. The catalytic  $\alpha$  subunit of AMPK is activated allosterically by AMP, and by phosphorylation via the AMPK kinase LKB1. AMPK's role in metabolic regulation has implicated this serine/threonine kinase as a therapeutic target in heart disease, obesity, and diabetes.