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### Human/Mouse/Rat AMPKβ1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG Catalog Number: AF2854

**R**Dsystems

DESCRIPTION		
Species Reactivity	tivity Human/Mouse/Rat Detects human, mouse, and rat ΑΜΡΚβ1 in Western blots. In Western blots, no cross-reactivity with recombinant human ΑΜΡΚβ2 is observed.	
Specificity		
Source	Polyclonal Goat IgG	
Purification	Antigen Affinity-purified	
Immunogen	<i>E. coli</i> -derived recombinant human AMPKβ1 Met1-Ile270 Accession # Q9Y478	
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	1 µg/mL	See Below	
Immunohistochemistry	3-15 µg/mL	Immersion fixed paraffin-embedded sections of Human Kidney, Mouse Kidney and Rat Kidney	

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#### Data



**R**Dsystems

Detection of Human/Mouse/Rat AMPKβ1 by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line and C6 rat glioma cell line. PVDF membrane was probed with 1 µg/mL Goat Anti-Human/Mouse/Rat AMPKß1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2854) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). For additional reference, recombinant human AMPK&1 and AMPK&2 (2 ng/lane) were included. A specific band for AMPK beta 1 was detected at approximately 38 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblo Buffer Group 2.

#### Immunohistochemistry



Detection of AMPK<sub>β1</sub> in Human Kidney. AMPK<sub>β1</sub> was detected in immersion fixed paraffin-embedded sections of . Human Kidney using Goat Anti-Human/Mouse/Rat AMPKβ1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2854) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in convoluted tubules. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

#### Immunohistochemistry



Detection of AMPK<sub>β1</sub> in Mouse Kidney. AMPKB1 was detected in immersion fixed paraffin-embedded sections of Mouse Kidney using Goat Anti-Human/Mouse/Rat AMPKβ1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2854) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCvte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in convoluted tubules. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents

#### Immunohistochemistry



Detection of AMPK<sub>β1</sub> in Rat Kidney. AMPKB1 was detected in immersion fixed paraffinembedded sections of Rat Kidney using Goat Anti-Human/Mouse/Rat AMPKβ1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2854) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in convoluted tubules. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents

# 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 • 0 °C under sterile conditions after reconstitution.

#### 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  $\beta$ 1 subunit is expressed at higher levels than the  $\beta$ 2 subunit in liver, while  $\beta$ 2 is more abundant than  $\beta$ 1 in skeletal muscle. AMPK's role in metabolic regulation has implicated this serine/threonine kinase complex as a therapeutic target in heart disease, obesity, and diabetes.

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