

Product datasheet for **AP06008PU-N**

AMPK alpha 1 (PRKAA1) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	ELISA, IF, IHC, WB
Recommended Dilution:	Western blot: 1/500-1/1000. Immunohistochemistry on Paraffin sections: 1/50-1/200. Immunofluorescence: 1/50-1/200.
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Synthetic peptide, corresponding to amino acids 450-500 of Human AMPK α 1.
Specificity:	This antibody detects endogenous levels of PRKAA1 / AMPK1 protein. (region surrounding Thr479)
Formulation:	Phosphate buffered saline (PBS), pH 7.2 State: Aff - Purified State: Liquid purified Ig fraction Preservative: 0.05% Sodium azide
Concentration:	1.0 mg/ml
Purification:	Affinity chromatography using epitope-specific immunogen and the purity is > 95% (by SDS-PAGE)
Conjugation:	Unconjugated
Storage:	Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Predicted Protein Size:	~ 63 kDa
Gene Name:	protein kinase AMP-activated catalytic subunit alpha 1
Database Link:	Entrez Gene 65248 Rat Entrez Gene 105787 Mouse Entrez Gene 5562 Human Q13131



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Background:

AMPK is a heterotrimeric complex comprising a catalytic α subunit and regulatory β and γ subunits. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. AMPK is activated by high AMP and low ATP through a mechanism involving allosteric regulation, promotion of phosphorylation by an upstream protein kinase known as AMPK kinase, and inhibition of dephosphorylation. Activated AMPK can phosphorylate and regulate in vivo hydroxymethylglutaryl-CoA reductase and acetyl-CoA carboxylase, which are key regulatory enzymes of sterol synthesis and fatty acid synthesis, respectively. The human AMPK α 1 and AMPK α 2 genes encode 548 amino acid and 552 amino acid proteins, respectively. Human AMPK β 1 encodes a 271 amino acid protein and human AMPK β 2 encodes a 272 amino acid protein. The human AMPK γ 1 gene encodes a 331 amino acid protein. Human AMPK γ 2 and AMPK γ 3, which are 569 and 492 amino acid proteins, respectively, contain unique N-terminal domains and may participate directly in the binding of AMP within the AMPK complex.

Synonyms:

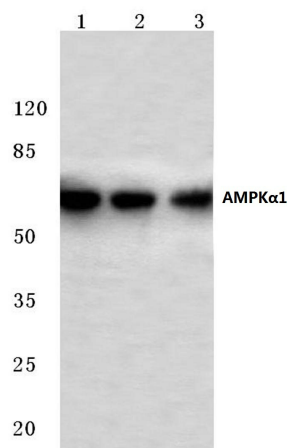
AMPK1, AMPK alpha-1 chain

Protein Families:

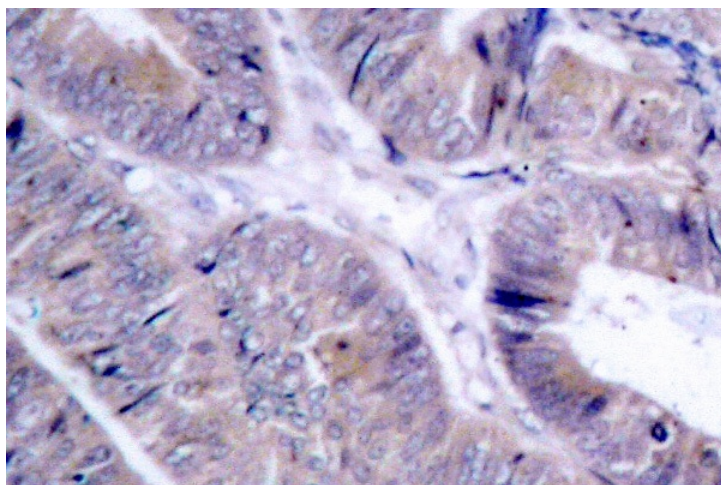
Druggable Genome, Protein Kinase

Protein Pathways:

Adipocytokine signaling pathway, Hypertrophic cardiomyopathy (HCM), Insulin signaling pathway, mTOR signaling pathway, Regulation of autophagy

Product images:

Western blot (WB) analysis of AMPK α antibody at 1/500 dilution. Lane 1: HeLa cell lysate, Lane 2: SP2/0 cell lysate, Lane 3: H9C2 cell lysate.



Immunohistochemical analysis using PRKAA1 antibody in Paraffin-embedded human colon carcinoma tissue.