

## Product datasheet for **TA354826**

### AMPK alpha 1 (PRKAA1) Rabbit Polyclonal Antibody

#### Product data:

|                         |   |
|-------------------------|---|
| Product Type:           | Primary Antibodies  |
| Applications:           | WB  |
| Recommended Dilution:   | WB 0.1-1 µg/ml ELISA 0.01-0.1 µg/ml IP 2-5 µg/ml IHC 2-10 µg/ml FC 5-10 µg/ml   |
| Reactivity:             | Human, Rat, Mouse, Bovine, Chicken, Dog, Invertebrate   |
| Host:                   | Rabbit  |
| Isotype:                | IgG   |
| Clonality:              | Polyclonal  |
| Immunogen:              | A synthetic peptide surrounding to the epitope -LRTSC- with a phosphorylation site at Thr 172 of AMPK alpha protein from human origin   |
| Formulation:            | This affinity purified antibody is supplied in sterile Tris-buffered saline (pH7.2) containing antibody stabilizer.   |
| Purification:           | The Rabbit IgG is purified by site-modified Epitope Affinity Purification.  |
| Conjugation:            | Unconjugated  |
| Storage:                | Store at -20°C as received.   |
| Stability:              | Stable for 12 months from date of receipt.  |
| Predicted Protein Size: | 63 kDa  |
| Gene Name:              | protein kinase AMP-activated catalytic subunit alpha 1  |
| Database Link:          | <a href="#">NP_006242</a><br><a href="#">Entrez Gene 65248</a> <a href="#">RatEntrez Gene 105787</a> <a href="#">MouseEntrez Gene 479351</a> <a href="#">DogEntrez Gene 5562</a><br><a href="#">Human</a><br><a href="#">Q13131</a> |



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**Background:**

AMP-activated protein kinase (AMPK) is highly conserved from yeast to plants and animals and plays a key role in the regulation of energy balance at both the cellular and the whole body levels. Once activated, it affects a metabolic switch from an anabolic to a catabolic state, both by acutely phosphorylating metabolic enzymes and, in the longer term, by regulating gene expression. AMPK is a heterotrimeric complex composed of a catalytic  $\alpha$  subunit and regulatory  $\beta$  and  $\gamma$  subunits. Binding AMP to the beta domains triggers increased phosphorylation at Thr172 on the activation loop of the alpha subunit. AMP Phosphorylation at Thr172 is catalyzed by the tumor suppressor kinase LKB1 or CaMKK-beta, TGF-beta activated kinase-1 (TAK1). AMPK $\alpha$  is also phosphorylated at Thr258 and Ser485 (for  $\alpha$ 1; Ser491 for  $\alpha$ 2).

**Synonyms:**

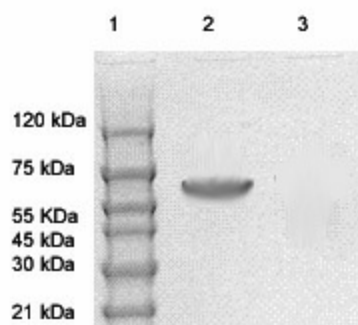
AMPK; AMPK $\alpha$ 1

**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:**

WB: The whole cell lysate derived from serum starved HEK 293 was immunoblotted by Rabbit anti-AMPK alpha 1 (pT172) antibody at 1:500 (lane 2). BSA was loaded as a negative control (Lane 3).