

## Recombinant Human AMPK (combination of A2/B2/G1 subunits), GST-His-tagged

**Cat. No.** PRKAA2-43H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant full-length human AMPK (combination of A2/B2/G1 subunits) was expressed by baculovirus in Sf9 insect cells using the N-terminal GST and C-terminal His tags.                                                                                                                                                                                                                                                                                                                           |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Source</b>           | Sf9 Cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Description</b>      | AMP-activated protein kinase (AMPK) exhibits a key role as a master regulator of cellular energy homeostasis. AMPK exists as a heterotrimeric complex composed of a catalytic alpha subunit and regulatory beta and gamma subunits. Binding of AMP to the gamma subunit allosterically activates the complex. AMPK is activated in response to stresses that deplete cellular ATP (low glucose, hypoxia and ischemia) and via signaling pathways in response to adiponectin, leptin and CAMKKbeta. |
| <b>Form</b>             | 50mM Tris-HCl, pH 7.5, 150mM NaCl, 10mM glutathione, 0.1mM EDTA, 0.25mM DTT, 0.1mM PMSF, 25% glycerol.                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Molecular Mass</b>   | ~92kDa (A2), ~62kDa (B2), and ~68Da (G1)                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Applications</b>     | Kinase Assay, Western Blot                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Storage</b>          | Store product at -70oC. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable                                                                                                                                                                                                                                                                                                                                  |

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performance, avoid repeated handling and multiple freeze/thaw cycles.

## GENE INFORMATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>           | PRKAA2 protein kinase, AMP-activated, alpha 2 catalytic subunit [ Homo sapiens ]                                                                                                                                                                                                                                                                                                                                        |
| <b>Official Symbol</b>     | PRKAA2                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Synonyms</b>            | PRKAA2; protein kinase, AMP-activated, alpha 2 catalytic subunit; PRKAA; 5-AMP-activated protein kinase catalytic subunit alpha-2; AMPK; AMPKa2; AMPK-alpha-2 chain; AMPK subunit alpha-2; 5-AMP-activated protein kinase, catalytic alpha-2 chain; AMPK2;                                                                                                                                                              |
| <b>Gene ID</b>             | 5563                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>mRNA Refseq</b>         | NM_006252                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Protein Refseq</b>      | NP_006243                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>MIM</b>                 | 600497                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>UniProt ID</b>          | P54646                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Chromosome Location</b> | 1p31                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Pathway</b>             | AMPK inhibits chREBP transcriptional activation activity, organism-specific biosystem; AMPK signaling, organism-specific biosystem; Adipocytokine signaling pathway, organism-specific biosystem; Adipocytokine signaling pathway, conserved biosystem; Energy Metabolism, organism-specific biosystem; Energy dependent regulation of mTOR by LKB1-AMPK, organism-specific biosystem; Fatty acid, triacylglycerol, and |

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ketone body metabolism, organism-specific biosystem;

**Function**

AMP-activated protein kinase activity; AMP-activated protein kinase activity; ATP binding; chromatin binding; histone serine kinase activity; metal ion binding; nucleotide binding; protein binding; protein binding, bridging; protein kinase activity; protein serine/threonine kinase activity;

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