

Bioactive

Full-Length

PRKAA1/PRKAB2/PRKAG1 (Human) Recombinant Protein

Catalog # P6467

Size 5 ug

Applications

Result of activity analysis

Result of activity analysis

□

Specification

Product Description	Human PRKAA1/PRKAB2/PRKAG1 (NP_006242.4/NP_005390.1/NP_002724.1) full length recombinant protein with GST-tag at N-terminal using baculovirus expression system and activated with His-tag CaMKK1.
Host	Viruses
Form	Liquid
Preparation Method	Baculovirus expression system.
Purification	Glutathione sepharose chromatography.
Purity	0.98
Activity	The activity was measured by off-chip mobility shift assay. The enzyme was incubated with fluorescence-labeled substrate and Mg (or Mn)/ATP. Substrate: SAMS peptide, ATP: 100 uM.
Quality Control Testing	The purity was assessed by SDS-PAGE/CBB staining.
Storage Buffer	50 mM Tris-HCl, 150 mM NaCl, 0.05% Brij35, 1 mM DTT, 10% glycerol, pH7.5
Storage Instruction	Stored at -80°C. Aliquot to avoid repeated freezing and thawing.

Note	Result of activity analysis
	Result of activity analysis

Applications

- Functional Study

Gene Info — PRKAA1

Entrez GeneID	5562
Protein Accession#	NP_006242.4;NP_005390.1;NP_002724.1
Gene Name	PRKAA1
Gene Alias	AMPK, AMPKa1, MGC33776, MGC57364
Gene Description	protein kinase, AMP-activated, alpha 1 catalytic subunit
Omim ID	602739
Gene Ontology	Hyperlink
Gene Summary	The protein encoded by this gene belongs to the ser/thr protein kinase family. It is the catalytic subunit of the 5'-prime-AMP-activated protein kinase (AMPK). AMPK is a cellular energy sensor conserved in all eukaryotic cells. The kinase activity of AMPK is activated by the stimuli that increase the cellular AMP/ATP ratio. AMPK regulates the activities of a number of key metabolic enzymes through phosphorylation. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. Alternatively spliced transcript variants encoding distinct isoforms have been observed. [provided by RefSeq]
Other Designations	5'-AMP-activated protein kinase, catalytic alpha-1 chain AMP -activate kinase alpha 1 subunit AMP-activated protein kinase, catalytic, alpha-1 AMPK alpha 1

Gene Info — PRKAB2

Entrez GeneID	5565
Protein Accession#	NP_006242.4;NP_005390.1;NP_002724.1
Gene Name	PRKAB2
Gene Alias	MGC61468

Gene Description	protein kinase, AMP-activated, beta 2 non-catalytic subunit
Omim ID	602741
Gene Ontology	Hyperlink
Gene Summary	The protein encoded by this gene is a regulatory subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This subunit may be a positive regulator of AMPK activity. It is highly expressed in skeletal muscle and thus may have tissue-specific roles. [provided by RefSeq]
Other Designations	5'-AMP-activated protein kinase, beta-2 subunit AMP-activated protein kinase beta 2 non-catalytic subunit AMPK beta 2 AMPK beta-2 chain OTTHUMP00000015910

Gene Info — PRKAG1

Entrez GeneID	5571
Protein Accession#	NP_006242.4;NP_005390.1;NP_002724.1
Gene Name	PRKAG1
Gene Alias	AMPKG, MGC8666
Gene Description	protein kinase, AMP-activated, gamma 1 non-catalytic subunit
Omim ID	602742
Gene Ontology	Hyperlink
Gene Summary	The protein encoded by this gene is a regulatory subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This subunit is one of the gamma regulatory subunits of AMPK. Alternatively spliced transcript variants encoding distinct isoforms have been observed. [provided by RefSeq]
Other Designations	5'-AMP-activated protein kinase, gamma-1 subunit AMP-activated protein kinase, noncatalytic gamma-1 subunit AMPK gamma-1 chain

Pathway

- [Adipocytokine signaling pathway](#)
- [Adipocytokine signaling pathway](#)
- [Adipocytokine signaling pathway](#)
- [Hypertrophic cardiomyopathy \(HCM\)](#)
- [Hypertrophic cardiomyopathy \(HCM\)](#)
- [Hypertrophic cardiomyopathy \(HCM\)](#)
- [Insulin signaling pathway](#)
- [Insulin signaling pathway](#)
- [Insulin signaling pathway](#)
- [mTOR signaling pathway](#)
- [Regulation of autophagy](#)

Disease

- [Alzheimer disease](#)
- [Alzheimer disease](#)
- [Atherosclerosis](#)
- [Atherosclerosis](#)
- [Atherosclerosis](#)
- [Calcinosis](#)
- [Calcinosis](#)
- [Calcinosis](#)
- [Cardiovascular Diseases](#)
- [Cardiovascular Diseases](#)
- [Cardiovascular Diseases](#)
- [Colonic Neoplasms](#)
- [Coronary Artery Disease](#)

- [Coronary Artery Disease](#)
- [Coronary Artery Disease](#)
- [Diabetes Complications](#)
- [Diabetes Complications](#)
- [Diabetes Mellitus](#)
- [Diabetes Mellitus](#)
- [Diabetes Mellitus](#)
- [Drug Toxicity](#)
- [Drug Toxicity](#)
- [Drug Toxicity](#)
- [Edema](#)
- [Edema](#)
- [Edema](#)
- [Genetic Predisposition to Disease](#)
- [Hypercholesterolemia](#)
- [Hypercholesterolemia](#)
- [Metabolic Syndrome X](#)
- [Metabolic Syndrome X](#)
- [Neoplasms](#)
- [Neoplasms](#)
- [Osteoporosis](#)
- [Osteoporosis](#)
- [Rectal Neoplasms](#)