

Recombinant PRKAA1 complex

Catalog No: 81340, 81640

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.6 µg/µl

Source: Human

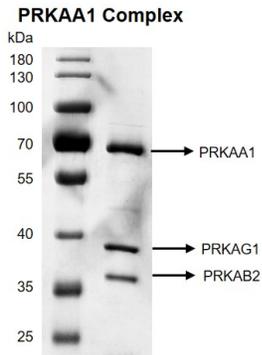
Buffer Contents: Recombinant PRKAA1 Complex is supplied 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5 mM TCEP.

Background: PRKAA1, Protein Kinase AMP-Activated Catalytic Subunit Alpha 1, a member of the ser/thr protein kinase family, is a component of the 5'-prime-AMP-activated protein kinase (AMPK) (contain PRKAA1, PRKAB2, PRKAG1), it is an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism. In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes, protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation. AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators. AMPK regulates lipid synthesis by phosphorylating and inactivating lipid metabolic enzymes such as ACACA, ACACB, GYS1, HMGCR and LIPE; regulates fatty acid and cholesterol synthesis by phosphorylating acetyl-CoA carboxylase (ACACA and ACACB) and hormone-sensitive lipase (LIPE) enzymes, respectively; regulates insulin-signaling and glycolysis by phosphorylating IRS1, PFKFB2 and PFKFB3. AMPK stimulates glucose uptake in muscle by increasing the translocation of the glucose transporter SLC2A4/GLUT4 to the plasma membrane, possibly by mediating phosphorylation of TBC1D4/AS160. Regulates transcription and chromatin structure by phosphorylating transcription regulators involved in energy metabolism such as CRTC2/TORC2, FOXO3, histone H2B, HDAC5, MEF2C, MLXIPL/ChREBP, EP300, HNF4A, p53/TP53, SREBF1, SREBF2 and PPARGC1A.

Protein Details: Recombinant PRKAA1 Complex that includes full length human PRKAA1 protein (accession number NP_996790.3) with a N-terminal FLAG tag and full length human PRKAB2 protein (accession number NP_005390.1) without tag and full length human PRKAG1 protein (accession number NP_002724.1) without tag was expressed in Sf9 cells. The molecular weights of PRKAA1, PRKAB2, PRKAG1 are 65.3 kDa, 30 kDa and 37.6 kDa, respectively

Application Notes: This product was manufactured as described in Protein Details. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for a given product is shown on the lot-specific Technical Data Sheet.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.



Recombinant PRKAA1 Complex

10% SDS-PAGE with Coomassie blue staining

MW of PRKAA1: 65.3 kDa

MW of PRKAB2: 30 kDa

MW of PRKAG1: 37.6 kDa

Purity: >90%