

AMPK Complex (A1+B1+G1) Active Protein | AMPK active protein

Recombinant AMPK Complex (A1+B1+G1) protein

CATALOG #
AAA60345

HOST
Baculovirus

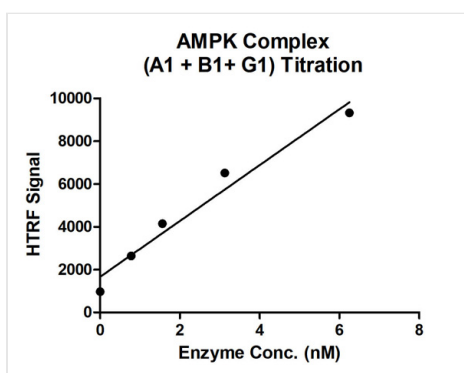
PRODUCT SYNONYMS

AMPK Complex (A1+B1+G1); Recombinant AMPK Complex (A1+B1+G1) protein; AMPK active protein

PRODUCT SPECIFICATIONS

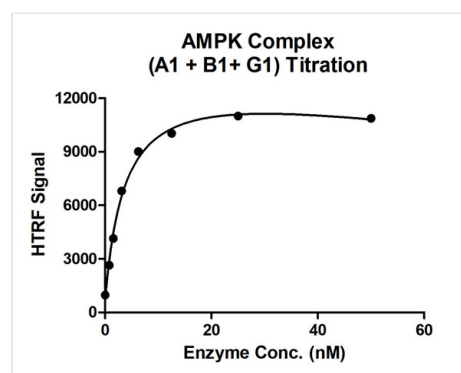
Host	Baculovirus
Purity/Purification	>=90%
Form/Format	Recombinant AMPK Complex (A1+B1+G1) Complex in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100 and 0.5 mM TCEP
Protein Species	Human
Tag	DYKDDDDK-Tag
Protein Details	Recombinant AMPK Complex (A1+B1+G1) that includes full length human PRKAA1 protein (accession number NP_996790.3) with a N-terminal DYKDDDDK tag and full length human PRKAB1 protein (accession number NP_006244.2) without tag and full length human PRKAG1 protein (accession number NP_002724.1) without tag was expressed in Hi5 cells. The molecular weights of PRKAA1, PRKAB1, PRKAG1 are 65.3 kDa, 30.4 kDa and 37.6 kDa, respectively.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage.

IMAGES



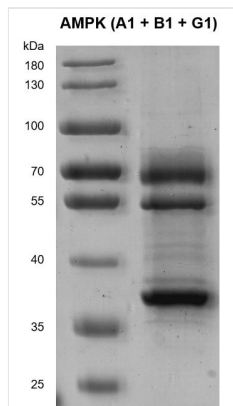
Bioactivity

HTRF assay for AMPK Complex (A1+B1+G1) activity 1 uM STK S1 substrate was incubated with different concentrations of AMPK Complex (A1+B1+G1) protein in a 10 ul reaction system containing 1xEnzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 50 uM AMP and 100 uM ATP for 1 hr. The 10 ul detection reagents containing anti-STK antibody (1:100) and SA-XL665 (1:100) diluted with 1x Detection Buffer were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.



Bioactivity

HTRF assay for AMPK Complex (A1+B1+G1) activity 1 uM STK S1 substrate was incubated with different concentrations of AMPK Complex (A1+B1+G1) protein in a 10 ul reaction system containing 1xEnzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 50 uM AMP and 100 uM ATP for 1 hr. The 10 ul detection reagents containing anti-STK antibody (1:100) and SA-XL665 (1:100) diluted with 1x Detection Buffer were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.



SDS-PAGE

Recombinant AMPK Complex (A1+B1+G1) protein 10% SDS-PAGE Coomassie staining MW:
 PRKAA1: 65.3 kDa, PRKAB1: 30.4 kDa, PRKAG2: 37.6 kDa Purity: >= 90%

ADDITIONAL INFORMATION

Related Product Information for AMPK active protein	AMPK 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: inhibits 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. It also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin. AMPK regulates lipid synthesis by phosphorylating and inactivating lipid metabolic enzymes such as ACACA, ACACB, GYS1, HMGCR and LIPE and regulates fatty acid and cholesterol synthesis by phosphorylating acetylCoA carboxylase (ACACA and ACACB) and hormone-sensitive lipase (LIPE) enzymes, respectively. It also regulates insulin-signaling and glycolysis by phosphorylating IRS1, PFKFB2 and PFKFB3. AMPK is a heterotrimer consisting of an alpha catalytic subunit (PRKAA1 or PRKAA2), and non-catalytic beta (PRKAB1 or PRKAB2) and gamma subunits (PRKAG1, PRKAG2 or PRKAG3). Beta non-catalytic subunit acts as a scaffold on which the AMPK complex assembles, via its C-terminus that bridges alpha and gamma subunits. Gamma non-catalytic subunit mediates binding to AMP, ADP and ATP, leading to activate or inhibit AMPK: AMP-binding results in allosteric activation of alpha catalytic subunit (PRKAA1 or PRKAA2) both by inducing phosphorylation and preventing dephosphorylation of catalytic subunits. ADP also stimulates phosphorylation, without stimulating already phosphorylated catalytic subunit. ATP promotes dephosphorylation of catalytic subunit, rendering the AMPK enzyme inactive.
Product Categories/Family for AMPK active protein	Kinase; Recombinant Proteins

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
 Online datasheet: <https://stage.aaabiotech.com/baculovirus-active-protein/ampk-complex-a1b1g1/60345>