

Recombinant PRKACG protein

Catalog No: 81180, 81880

Lot No: 16918001

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.25 µg/µl

Source: Human

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

Background: PRKACG (Protein Kinase CAMP-Activated Catalytic Subunit Gamma), also called as PKACG or KAPG, is a member of the catalytic subunits of protein kinase A, which exists as a tetrameric holoenzyme with two regulatory subunits and two catalytic subunits, in its inactive form. cAMP causes the dissociation of the inactive holoenzyme into a dimer of regulatory subunits bound to four cAMP and two free monomeric catalytic subunits. Four different regulatory subunits and three catalytic subunits have been identified in humans. cAMP-dependent phosphorylation of proteins by protein kinase A is important to many cellular processes, including differentiation, proliferation, and apoptosis.

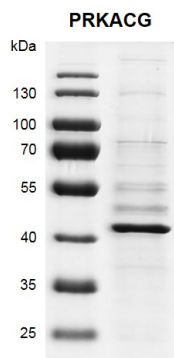
PRKACG can phosphorylate a large number of substrates in the cytoplasm and the nucleus. PRKACG has been shown to interact with Ryanodine receptor 2. Diseases associated with PRKACG include Bleeding Disorder, Platelet-Type, 19 and Stormorken Syndrome. Among its related pathways are Melanocyte Development and Pigmentation and Ovarian steroidogenesis.

Protein Details: Recombinant PRKACG protein was expressed in a baculovirus expression system as the full length protein (accession number NP_002723.2) with an N-terminal FLAG tag. The molecular weight of the protein is 41.7 kDa.

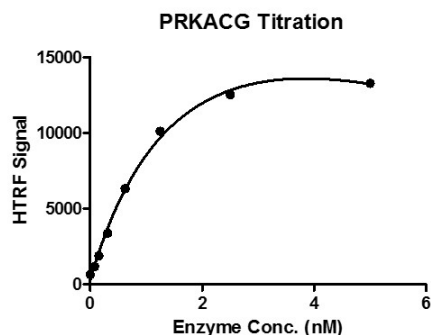
Application Notes: Recombinant PRKACG protein is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

Kinase Activity Assay Conditions: 1 µM STK S3 substrate was incubated with different concentrations of PRKACG protein in a 10 µl reaction system containing 1×Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 5 nM SEB and 100 µM ATP for 1 hour. The 10 µl detection reagents containing STK antibody and SA-XL665, each of which was 1:100 diluted with 1× Detection Buffer, were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature, and HTRF KinEASE STK assay was used to detect the enzymatic activity.

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.

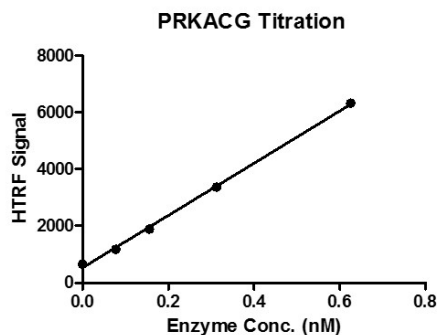


Recombinant PRKACG protein gel
 10% SDS-PAGE Coomassie staining
 MW: 41.7 kDa
 Purity: ≥80%



HTRF assay for recombinant PRKACG protein activity

1 μ M STK S3 substrate was incubated with different concentrations of PRKACG protein in a reaction buffer containing 1×Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 5 nM SEB and 100 μ M ATP for 1 hr. Detection reagents containing STK antibody and SA-XL665, each of which was 1:100 diluted with 1× Detection Buffer, were added and incubated for 30 min. All operations and reactions were performed at room temperature. HTRF KinEASE STK assay was used to detect the enzymatic activity.



HTRF assay for recombinant PRKACG protein activity

1 μ M STK S3 substrate was incubated with different concentrations of PRKACG protein in a reaction buffer containing 1×Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 5 nM SEB and 100 μ M ATP for 1 hr. Detection reagents containing STK antibody and SA-XL665, each of which was 1:100 diluted with 1× Detection Buffer, were added and incubated for 30 min. All operations and reactions were performed at room temperature. HTRF KinEASE STK assay was used to detect the enzymatic activity.