

Recombinant Human CaMKII alpha/CAMK2A Kinase

Catalog No.: RP03447LQ **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	815	Q9UQM7

Tags

N-GST

Synonyms

CAMK2A; CAMKA; CAMK2 α ; KIAA0968; CaM kinase II subunit alpha; CaMK-II subunit alpha; Calcium/calmodulin-dependent protein kinase type II subunit alpha

Product Information

Source	Purification
Baculovirus-Insect Cells	$\geq 90\%$ as determined by SDS-PAGE; $\geq 90\%$ as determined by HPLC.

Calculated MW	Observed MW
80.5 kDa	70-85 kDa

Endotoxin

< 1 EU/ μ g of the protein by LAL method.

Formulation

Supplied as a 0.22 μ m filtered solution in 50 mM Tris-HCl, 150 mM NaCl, 20% glycerol, 5 mM DTT, 0.1M Trehalose. (pH 7.5). Contact us for customized product form or formulation.

Reconstitution

Please use running water to thaw it quickly.

Contact

☎ | 400-999-6126

✉ | cn.market@abclonal.com.cn

🌐 | www.abclonal.com.cn

Background

Calcium/calmodulin-dependent protein kinase type II subunit alpha (CaMKII α) is one subunit of CaMKII, a protein kinase (i.e., an enzyme which phosphorylates proteins) that in humans is encoded by the CAMK2A gene. CaMKII alpha belongs to the serine/threonine-specific protein kinase family. Ca²⁺ signaling is crucial for several aspects of synaptic plasticity at glutamatergic synapses. This enzyme is composed of four different chains: alpha, beta, gamma, and delta. In addition to its calcium-calmodulin (CaM)-dependent activity, this protein can undergo autophosphorylation, resulting in CaM-independent activity. Two transcript variants encoding distinct isoforms have been identified for this gene. According to a 2018 study by Bruno Reversade, the recessive mutation of CAMK2A in humans cause a syndrome of severe intellectual disability with growth retardation.

Basic Information

Description

Recombinant Human CaMKII alpha/CAMK2A Kinase is produced by Baculovirus-Insect Cells expression system. The target protein is expressed with sequence (Ala2-His478) of Human CAMK2A (Accession #Q9UQM7) fused with a N-GST tag.

Bio-Activity

The activity of CAMK2 α is based on the MSA technology, and the content and ratio of the substrate and the product are directly separated and detected in real time and dynamically by the different migration rates of the substrate and the product after the enzymatic reaction.

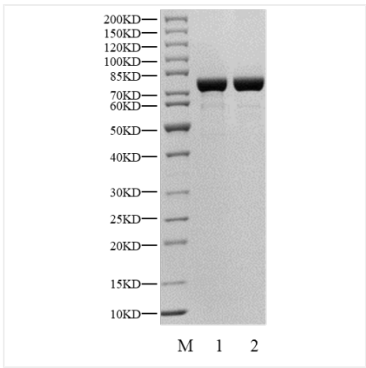
Storage

Store at -70°C. This product is stable at $\leq -70^\circ\text{C}$ for up to 1 year from the date of receipt. For optimal storage, aliquot into smaller quantities after centrifugation and store at recommended temperature.

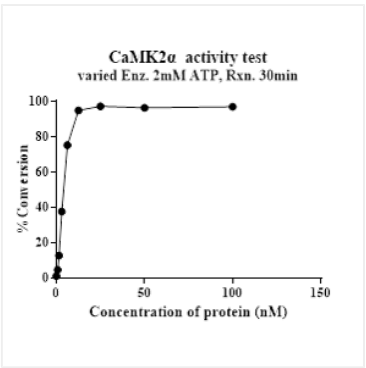
Aliquots below 10 μ L are not advisable. Product must not be stored in diluted solutions. Avoid repeated freeze-thaw cycles.

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Validation Data



Recombinant Human CaMKII alpha/CAMK2A Kinase was resolved with SDS-PAGE under reducing (Lane 1) and non-reducing (Lane 2) conditions.



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