# Recombinant Human CaMKII alpha/CAMK2A Kinase

## Catalog No.: RP03447LQ



### Sequence Information

**Species**
Human

**Gene ID**
815

**Swiss Prot**
Q9UQM7

**Tags**
N-GST

**Synonyms**
CAMK2A; CAMKA; CAMK2α; KIAA0968; CaM kinase II subunit alpha; CaMK-II subunit alpha; Calcium/calmodulin-dependent protein kinase type II subunit alpha

### Product Information

**Source**
Baculovirus-Insect Cells

**Purification**
≥ 90 % as determined by SDS-PAGE;≥ 90 % as determined by HPLC.

**Calculated MW**
80.5 kDa

**Observed MW**
70-85 kDa

**Endotoxin**
< 1 EU/μg of the protein by LAL method.

**Formulation**
Supplied as a 0.22 μm 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.

### Background

Calcium/calmodulin-dependent protein kinase type II subunit alpha (CAMKIIα) 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.

**Activity**
The activity of CAMK2α 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.

**Shipping**
Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

**Storage**
Store at -70℃

**Operational Notes**
For your safety and health, please wear a lab coat and disposable gloves for handling.

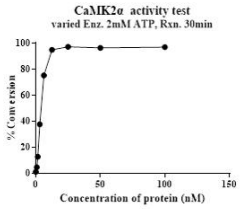
**Contact**

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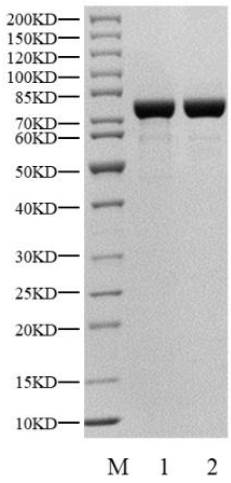


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## Validation Data




The activity of CAMK2α 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.




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