Recombinant Human CAMK1G/CaMKI gamma Protein (His & GST Tag)

Catalog No. PKSH030332

Note: Centrifuge before opening to ensure complete recovery of vial contents.

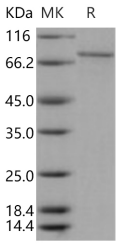
Description

Synonyms	CLICK3;CLICKIII;dJ272L16.1;RP1-272L16.2;VWS1
Species	Human
Expression Host	Baculovirus-Insect Cells
Sequence	Met 1-Met 476
Accession	Q96NX5-1
Calculated Molecular Weight	81.0 kDa
Observed molecular weight	75 kDa
Tag	N-His-GST
Bioactivity	Not validated for activity

Properties

Purity	> 85 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.
Shipping	This product is provided as liquid. It is shipped at frozen temperature with blue ice/gel packs. Upon receipt, store it immediately at < - 20°C.
Formulation	Supplied as sterile solution of 50mM Tris, 100mM NaCl, pH 8.0, 20% glycerol, 0.3mM DTT
Reconstitution	Not Applicable

Data



> 85 % as determined by reducing SDS-PAGE.

Background

Calmodulin-Dependent Protein Kinase (CaM Kinase) is a kind of protein phosphorylate multiple downstream targets. Concentration of cytosolic calcium functions as a second messenger that mediates a wide range of cellular responses. Calcium binds to calcium binding proteins (calmodulin/CaM) and stimulates the activity of a variety of enzymes, including CaM kinases referred to as CaM-kinases (CaMKs), such as CaMKI, CaMKII, CaMKIV and CaMKK. Calmodulin-dependent protein kinase CL3/CaMKIγ is a memberane-anchored CaMK belonging to the CaM kinase

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family. Its C-terminal region is uniquely modified by two sequential lipidification steps: prenylation followed by a kinase-activity-regulated palmitoylation. These modifications are essential for CaMKIγ membrane anchoring and targeting into detergent-resistant lipid microdomains in the dendrites. It has been found that CaMKIγ critically contributed to BDNF-stimulated dendritic growth. Raft insertion of CaMKIγ specifically promoted dendritogenesis of cortical neurons by acting upstream of RacGEF STEF and Rac, both present in lipid rafts. Thus, CaMKIγ may represent a key element in the Ca2+-dependent and lipid-raft-delineated switch that turns on extrinsic activity-regulated dendrite formation in developing cortical neurons.

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