Recombinant Human CAMK2D Protein (A2-I499), Tag Free

Cat. No. CAMK2D-0169H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human GG-CAMK2d(A2-I499 end) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	A2-I499
Description	Calcium/calmodulin-dependent protein kinase involved in the regulation of Ca(2+) homeostatis and excitation-contraction coupling (ECC) in heart by targeting ion channels, transporters and accessory proteins involved in Ca(2+) influx into the myocyte, Ca(2+) release from the sarcoplasmic reticulum (SR), SR Ca(2+) uptake and Na(+) and K(+) channel transport. Targets also transcription factors and signaling molecules to regulate heart function. In its activated form, is involved in the pathogenesis of dilated cardiomyopathy and heart failure. Contributes to cardiac decompensation and heart failure by regulating SR Ca(2+) release via direct phosphorylation of RYR2 Ca(2+) channel on 'Ser-2808'. In the nucleus, phosphorylates the MEF2 repressor HDAC4, promoting its nuclear export and binding to 14-3-3 protein, and expression of MEF2 and genes involved in the hypertrophic program. Is essential for left ventricular remodeling responses to myocardial infarction. In pathological myocardial remodeling acts downstream of the beta adrenergic receptor signaling cascade to regulate key proteins involved in ECC. Regulates Ca(2+) influx to myocytes by binding and phosphorylating the L-type

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	Ca(2+) channel subunit beta-2 CACNB2. In addition to Ca(2+) channels, can target and regulate the cardiac sarcolemmal Na(+) channel Nav1.5/SCN5A and the K+ channel Kv4.3/KCND3, which contribute to arrhythmogenesis in heart failure. Phosphorylates phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2, contributing to the enhancement of SR Ca(2+) uptake that may be important in frequency-dependent acceleration of relaxation (FDAR) and maintenance of contractile function during acidosis. May participate in the modulation of skeletal muscle function in response to exercise, by regulating SR Ca(2+) transport through phosphorylation of PLN/PLB and triadin, a ryanodine receptor-coupling factor.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	CAMK2D calcium/calmodulin-dependent protein kinase II delta [Homo sapiens (human)]

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Official Symbol	CAMK2D
Synonyms	CAMK2D; calcium/calmodulin-dependent protein kinase II delta; calcium/calmodulin dependent protein kinase (CaM kinase) II delta, CAMKD; calcium/calmodulin-dependent protein kinase type II subunit delta; CaMK-II delta subunit; caMK-II subunit delta; CaM-kinase II delta chain; CaM kinase II delta subunit; caM kinase II subunit delta; calcium/calmodulin-dependent protein kinase type II delta chain; calcium/calmodulin-dependent protein kinase (CaM kinase) II delta; CAMKD; MGC44911; DKFZp686I2288; DKFZp686G23119;
Gene ID	817
mRNA Refseq	NM_001221
Protein Refseq	NP_001212
MIM	607708
UniProt ID	Q13557

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