Data Sheet (Cat.No.TMPY-04573)

TargetMol

CAMKIV Protein, Mouse, Recombinant (His & GST)

General Information

Synonyms:	CaMKIV;D18Bwg0362e;calcium/calmodulin-dependent protein kinase IV;A430110E23Rik;AI666733;CaMKIV/Gr
Protein Construction:	A DNA sequence encoding the mouse CAMK4 (P08414) (Met1-Tyr469) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	P08414
Molecular Weight:	80.4 kDa (predicted); 85 kDa (reducing conditions)

QC Testing

Biological Activity:	No Kinase Activity
Purity:	≥ 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 7.4, 10% gly. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Ca2+/ calmodulin-dependent protein kinase 4 (CAMKIV) belongs to the serine/threonine protein kinase family, and to the Ca2+/calmodulin-dependent protein kinase subfamily which is widely recognized as an essential enzyme implicated in the phophoinositide amplification cascade. Ca2+/calmodulin dependent protein kinase (CAMK) can be activated by the introcellular increased Ca2+and then apt to combine with the target protein. Ca2+/calmodulin-dependent protein kinase 4 (CAMKIV) is a multifunctional CaM-dependent kinase protein with limited

tissue distribution, that has been implicated in transcriptional regulation in lymphocytes, neurons and male germ cells. All of the isforms of this family, including myosin light chain kinase, phosphorylase kinase, CaMK1, CaMKIII and CaMKIV have EF-hand structure.

Reference

Feliciano DM, et al. (2009) Repression of Ca2+/calmodulin-dependent protein kinase IV signaling accelerates retinoic acid-induced differentiation of human neuroblastoma cells. J Biol Chem. 284 (39): 26466-81.
Zhao X, et al. (2001). The modular nature of histone deacetylase HDAC4 confers phosphorylation-dependent intracellular trafficking. J Biol Chem. 276 (37): 35042-8.
Racioppi L, et al. (2008) Calcium/calmodulin-dependent kinase IV in immune and inflammatory responses: novel routes for an ancient traveller.

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