Human DCAMKL1 / DCLK1 Protein (aa 1-705, His & GST Tag)

Catalog Number: **11588-H20B**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CL1; CLICK1; DCAMKL1; DCDC3A; DCLK

Protein Construction:

A DNA sequence encoding the human DCLK1 (O15075-1) (Met 1-Val 705) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 84 % as determined by SDS-PAGE

Bio Activity:

The specific activity was determined to be 6.1 nmol/min/mg using synthetic Autocamtide-2 peptide (KKALRRQETVDAL-amide) as substrate.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human DCLK1/GST chimera consists of 942 amino acids and has a calculated molecular mass of 106 KDa. It migrates as an approximately 105 KDa band as predicted in SDS-PAGE under reducing conditions.

Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly, 0.5mM PMSF

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

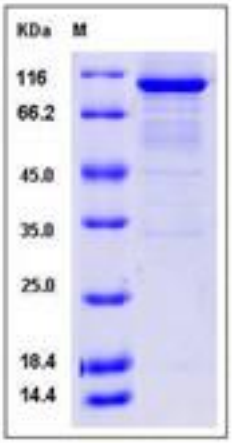
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

DCAMKL1, also known as DCLK1, is a member of the protein kinase superfamily and the doublecortin family. It contains two N-terminal doublecortin domains, which bind microtubules and regulate microtubule polymerization, a C-terminal serine/threonine protein kinase domain, which shows substantial homology to Ca2+/calmodulin-dependent protein kinase, and a serine/proline-rich domain in between the doublecortin and the protein kinase domains, which mediates multiple protein-protein interactions. DCAMKL1 is involved in several different cellular processes, including neuronal migration, retrograde transport, neuronal apoptosis and neurogenesis. Its microtubule-polymerizing activity is independent of its protein kinase activity. DCAMKL1 may be involved in a calcium-signaling pathway controlling neuronal migration in the developing brain. It may also participate in functions of the mature nervous system.

References

1.Sossey-Alaoui K, *et al*. (1999) DCAMKL1, a brain-specific transmembrane protein on 13q12.3 that is similar to doublecortin (DCX). Genomics. 56 (1): 121-6. 2.Matsumoto N, *et al*. (1999) Genomic structure, chromosomal mapping, and expression pattern of human DCAMKL1 (KIAA0369), a homologue of DCX (XLIS). Genomics. 56 (2): 179-83. 3.Lin PT, *et al*. (2001) DCAMKL1 encodes a protein kinase with homology to doublecortin that regulates microtubule polymerization. J Neurosci. 20 (24): 9152-61.