

Human DCAMKL1 / DCLK1 Protein

Catalog Number: 11588-HNCB



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 expressed and purified with two additional amino acids (Gly & Pro) at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 80 % as determined by SDS-PAGE

Bio Activity:

The specific activity was determined to be >3.5 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 °C

Predicted N terminal: Gly

Molecular Mass:

The secreted recombinant human DCLK1 consists of 707 amino acids and predicts a molecular mass of 78.5 KDa. The apparent molecular mass of the protein is approximately 64 KDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, 10% glycerol, pH 7.4.

Usage Guide

Storage:

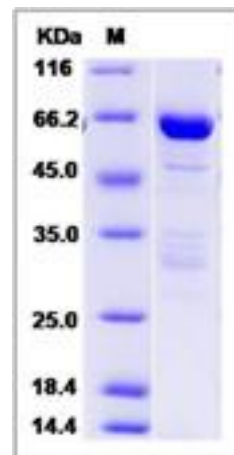
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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.

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For US Customer: Fax: 267-657-0217 • Tel: 215-583-7898

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