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DCLK1 Antibody

Catalog # ASC11079

Product Information

Application	WB, E, IHC-P
Primary Accession	O15075
Other Accession	NP_004725, 4758128
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	82224
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	DCLK1 antibody can be used for detection of DCLK1 by Western blot at 0.5 - 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL.

Additional Information

Gene ID	9201
Other Names	Serine/threonine-protein kinase DCLK1, 2.7.11.1, Doublecortin domain-containing protein 3A, Doublecortin-like and CAM kinase-like 1, Doublecortin-like kinase 1, DCLK1, DCAMKL1, DCDC3A, KIAA0369
Target/Specificity	DCLK1;
Reconstitution & Storage	DCLK1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	DCLK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DCLK1
Synonyms	DCAMKL1, DCDC3A, KIAA0369
Function	Probable kinase that may be involved in a calcium-signaling pathway controlling neuronal migration in the developing brain. May also participate in functions of the mature nervous system.
Tissue Location	In fetal tissues, highly expressed in brain, detectable in lung and liver, but not in kidney. In adult tissues, expressed ubiquitously in the brain, detectable in

the heart, liver, spleen, thymus, prostate, testis, ovary, small intestine and colon. The type A isoforms seem to be expressed predominantly in fetal brain whereas type B isoforms are expressed abundantly in both fetal and adult brain.

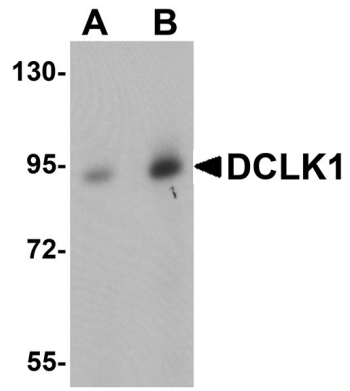
Background

DCLK1 Antibody: DCLK1 is one of three doublecortin-like kinases similar to the Ca2+/calmodulin-dependent protein kinase (CaMK) family. DCLK1 mRNA, like that of the homologous DCLK2 and DCLK3, is highly expressed in adult brain, but only DCLK1 and DCLK2 transcripts are present in human fetal brain and the developing mouse embryo, suggesting that DCLK1 and DCLK2 may play roles in cortical development. The DCLK proteins are homologous to Doublecortin (DCX), a gene that is mutated in X-linked human lissencephaly. In mouse models where the DCX gene has been disrupted, DCLK1 expression increases slightly and appears to compensate for the loss of DCX, as mice mutant for both DCX and DCLK1 show a severe phenotype including perinatal lethality, disorganized neocortical layering, and profound hippocampal cytoarchitectural disorganization. Unlike DCLK1, DCLK2 expression does not change in DCX-null mice.

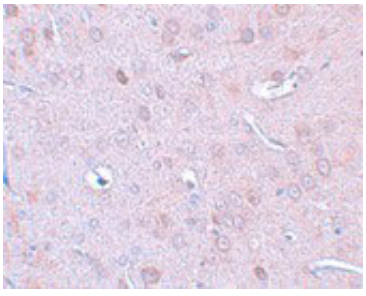
References

Sossey-Alaoui K and Srivastava AK. DCAMKL1, a brain specific transmembrane protein on 13q12.3 that is similar to doublecortin (DCX), Genomics1999; 56:121-6.
Ohmae S, Takemoto-Kimura S, Okamura M, et al. Molecular identification and characterization of a family of kinases with homology to Ca2+/calmodulin-dependent protein kinases I/IV. J. Biol. Chem.2006; 281:20427-39.
Tuy FPD, Saillour Y, Kappeler C, et al. Alternative transcripts of Dlck1 and Dlck2 and their expression in doublecortin knockout mice. Dev. Neurosci.2008; 30:171-86.
Reiner O and Coquelle FM. Missense mutations resulting in type 1 lissencephaly. Cell Mol. Life Sci.2005; 62:425-34.

Images



Western blot analysis of DCLK1 in human brain tissue lysate with DCLK1 antibody at (A) 0.5 and (B) 1 µg/mL.



Immunohistochemistry of DLCK1 in rat brain tissue with DLCK1 antibody at 2.5 µg/mL.