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DCX Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1731a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	O43602
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2G5
Isotype	IgG1
Calculated MW	40574
Description	This gene encodes a member of the doublecortin family. The protein encoded by this gene is a cytoplasmic protein and contains two doublecortin domains, which bind microtubules. In the developing cortex, cortical neurons must migrate over long distances to reach the site of their final differentiation. The encoded protein appears to direct neuronal migration by regulating the organization and stability of microtubules. In addition, the encoded protein interacts with LIS1, the regulatory gamma subunit of platelet activating factor acetylhydrolase, and this interaction is important to proper microtubule function in the developing cortex. Mutations in this gene cause abnormal migration of neurons during development and disrupt the layering of the cortex, leading to epilepsy, mental retardation, subcortical band heterotopia ("double cortex"syndrome) in females and lissencephaly ("smooth brain"syndrome) in males. Multiple transcript variants encoding different isoforms have been found for this gene.
Immunogen	Purified recombinant fragment of human DCX (AA: 362-411) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	1641
Other Names	Neuronal migration protein doublecortin, Doublin, Lissencephalin-X, Lis-X, DCX, DBCN, LISX
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions	DCX Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DCX
Synonyms	DBCN, LISX
Function	Microtubule-associated protein required for initial steps of neuronal dispersion and cortex lamination during cerebral cortex development. May act by competing with the putative neuronal protein kinase DCLK1 in binding to a target protein. May in that way participate in a signaling pathway that is crucial for neuronal interaction before and during migration, possibly as part of a calcium ion-dependent signal transduction pathway. May be part with PAFAH1B1/LIS-1 of overlapping, but distinct, signaling pathways that promote neuronal migration.
Cellular Location	Cytoplasm. Cell projection, neuron projection {ECO:0000250|UniProtKB:Q9ESI7}. Note=Localizes at neurite tips. {ECO:0000250|UniProtKB:Q9ESI7}
Tissue Location	Highly expressed in neuronal cells of fetal brain (in the majority of cells of the cortical plate, intermediate zone and ventricular zone), but not expressed in other fetal tissues. In the adult, highly expressed in the brain frontal lobe, but very low expression in other regions of brain, and not detected in heart, placenta, lung, liver, skeletal muscles, kidney and pancreas

References

1.FASEB J. 2009 Dec;23(12):4276-87. 2.J Cell Biol. 2010 Nov 1;191(3):463-70.

Images

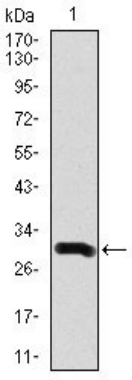
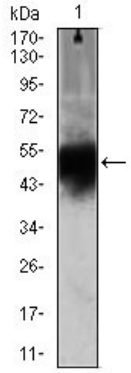


Figure 1: Western blot analysis using DCX mAb against human DCX recombinant protein. (Expected MW is 34.1 kDa)

Figure 2: Western blot analysis using DCX mouse mAb against Mouse heart (1) lysate.



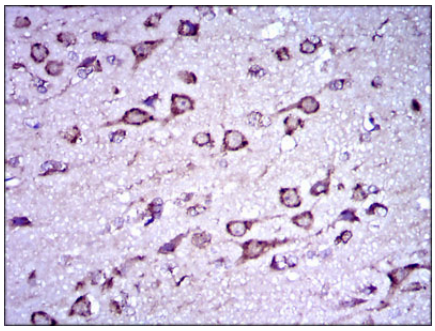


Figure 3: Immunohistochemical analysis of paraffin-embedded brain tissue tissues using DCX mouse mAb with DAB staining.

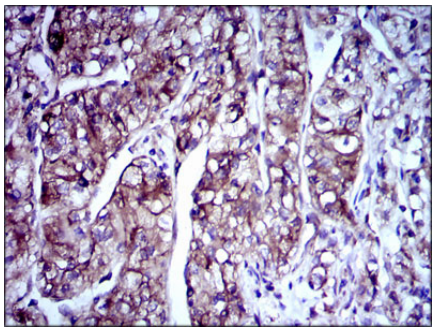


Figure 4: Immunohistochemical analysis of paraffin-embedded kidney cancer tissues using DCX mouse mAb with DAB staining.

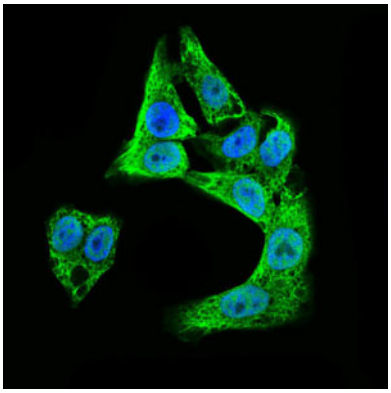


Figure 5: Immunofluorescence analysis of HepG2 cells using DCX mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye.

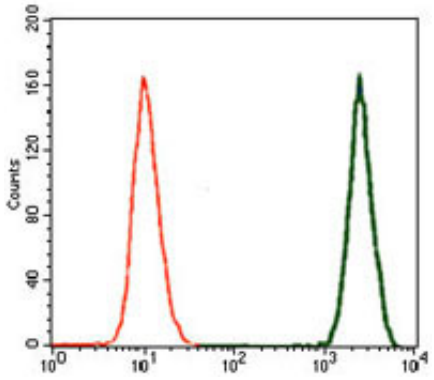


Figure 6: Flow cytometric analysis of SK-N-SH cells using DCX mouse mAb (green) and negative control (red).