

Doublecortin (E-5): sc-390645

BACKGROUND

Lissencephaly (smooth brain) is an abnormality of brain development characterized by incomplete neuronal migration and a smooth cerebral surface, resulting in severe mental retardation. Genetic analysis identified two proteins that are mutated in some cases of lissencephaly, designated lissencephaly-1 protein (LIS1) and doublecortin. LIS1 shows sequence homology to β -subunits of heterotrimeric G proteins. Doublecortin contains a consensus Abl phosphorylation site, and it has some sequence homology to a predicted kinase protein. Both proteins are highly expressed in developing brain, suggesting that they may be involved in a signal transduction pathway that is crucial to brain development.

REFERENCES

1. Reiner, O., et al. 1993. Isolation of a Miller-Dieker lissencephaly gene containing G protein β -subunit-like repeats. *Nature* 364: 717-721.
2. Garcia-Higuera, I., et al. 1996. Folding of proteins with WD-repeats: comparison of six members of the WD-repeat superfamily to the G protein β -subunit. *Biochemistry* 35: 13985-13994.
3. Albrecht, U., et al. 1996. Platelet-activating factor acetylhydrolase expression and activity suggest a link between neuronal migration and platelet-activating factor. *Dev. Biol.* 180: 579-593.
4. Walsh, C.A. 1998. LISsen up! *Nat. Genet.* 19: 307-308.

CHROMOSOMAL LOCATION

Genetic locus: DCX (human) mapping to Xq23; Dcx (mouse) mapping to X F2.

SOURCE

Doublecortin (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 46-79 of Doublecortin of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Doublecortin (E-5) is available conjugated to agarose (sc-390645 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390645 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390645 PE), fluorescein (sc-390645 FITC), Alexa Fluor[®] 488 (sc-390645 AF488), Alexa Fluor[®] 546 (sc-390645 AF546), Alexa Fluor[®] 594 (sc-390645 AF594) or Alexa Fluor[®] 647 (sc-390645 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390645 AF680) or Alexa Fluor[®] 790 (sc-390645 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390645 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Doublecortin (E-5) is recommended for detection of Doublecortin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Doublecortin (E-5) is also recommended for detection of Doublecortin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Doublecortin siRNA (h): sc-35214, Doublecortin siRNA (m): sc-35215, Doublecortin shRNA Plasmid (h): sc-35214-SH, Doublecortin shRNA Plasmid (m): sc-35215-SH, Doublecortin shRNA (h) Lentiviral Particles: sc-35214-V and Doublecortin shRNA (m) Lentiviral Particles: sc-35215-V.

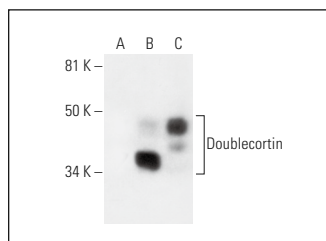
Molecular Weight of Doublecortin: 40 kDa.

Positive Controls: Doublecortin (h): 293T Lysate: sc-114231 or IMR-32 cell lysate: sc-2409.

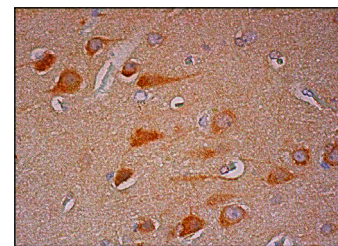
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Doublecortin (E-5): sc-390645. Western blot analysis of Doublecortin expression in non-transfected 293T: sc-117752 (A), human Doublecortin transfected 293T: sc-114231 (B) and IMR-32 (C) whole cell lysates.



Doublecortin (E-5): sc-390645. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells and glial cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.