

Anti-Doublecortin antibody ab235153

[6 Images](#)

Overview

Product name	Anti-Doublecortin antibody
Description	Goat polyclonal to Doublecortin
Host species	Goat
Tested applications	Suitable for: IHC-P, WB, ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	ICC/IF: Post-natal rat pup (PND1) heterogeneous brain cells. WB: Post-natal rat pup whole brain lysate (PND2-6)* and rat pup PND2-6 – minimal cortex brain lysate. Doublecortin (human) overexpressing HEK-293T lysate C-Myc/DDK tagged. IHC-P: Mouse dentate gyrus tissue. Human brain tissue.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituent: PBS
Purity	Affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab235153 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		1/1000. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
WB		1/1000. Predicted molecular weight: 49 kDa.
ICC/IF		Use a concentration of 15 µg/ml.

Target

Function

Seems to be required for initial steps of neuronal dispersion and cortex lamination during cerebral cortex development. May act by competing with the putative neuronal protein kinase DCAMKL1 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 LIS-1 of an overlapping, but distinct, signaling pathways that promote neuronal migration.

Tissue specificity

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.

Involvement in disease

Defects in DCX are the cause of lissencephaly X-linked type 1 (LISX1) [MIM:300067]; also called X-LIS or LIS. LISX1 is a classic lissencephaly characterized by mental retardation and seizures that are more severe in male patients. Affected boys show an abnormally thick cortex with absent or severely reduced gyri. Clinical manifestations include feeding problems, abnormal muscular tone, seizures and severe to profound psychomotor retardation. Female patients display a less severe phenotype referred to as 'doublecortex'.

Defects in DCX are the cause of subcortical band heterotopia X-linked (SBHX) [MIM:300067]; also known as double cortex or subcortical laminar heterotopia (SCLH). SBHX is a mild brain malformation of the lissencephaly spectrum. It is characterized by bilateral and symmetric plates or bands of gray matter found in the central white matter between the cortex and cerebral ventricles, cerebral convolutions usually appearing normal.

Note=A chromosomal aberration involving DCX is found in lissencephaly. Translocation t(X;2)(q22.3;p25.1).

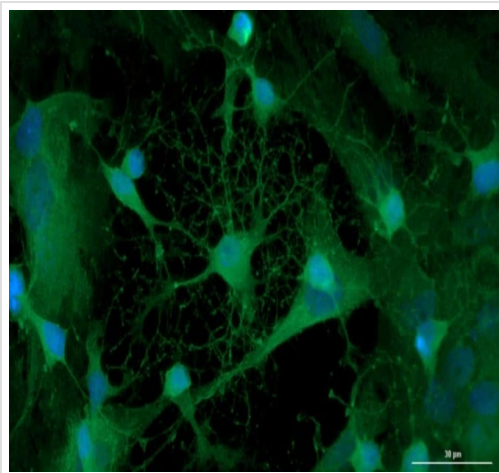
Sequence similarities

Contains 2 doublecortin domains.

Cellular localization

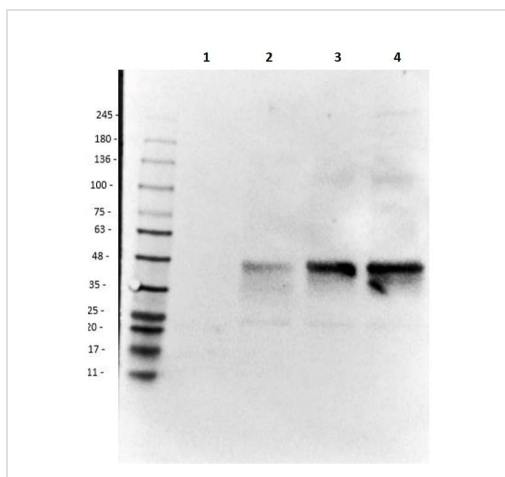
Cytoplasm.

Images



Immunocytochemistry/ Immunofluorescence - Anti-Doublecortin antibody (ab235153)

4% PFA fixed, 0.3% Triton X-100 permeabilized post-natal rat pup (PND1) heterogeneous brain cells labeling Doublecortin using ab235153 at 15 µg/ml (O/N at 4°C) (green) in ICC/IF. The Secondary antibody is a Donkey anti-Gt IgG DyLigh™ 488 conjugated preadsorbed antibody, used at 5 µg/ml for 1 hour at room temperature. The Nuclear counterstain is DAPI (Blue).



Western blot - Anti-Doublecortin antibody (ab235153)

All lanes : Anti-Doublecortin antibody (ab235153) at 1/1000 dilution

Lane 1 : HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) cell lysate at 15 µg

Lane 2 : Post-natal rat pup whole brain lysate (PND2-6)* at 15 µg

Lane 3 : Rat pup PND2-6 - minimal cortex brain lysate at 15 µg

Lane 4 : Rat pup PND2-6 – minimal cortex brain lysate at 35 µg

Secondary

Lanes 1-2 & 4 : Donkey Anti-Goat IgG H&L (HRP) preadsorbed (**ab7125**) at 1/40000 dilution

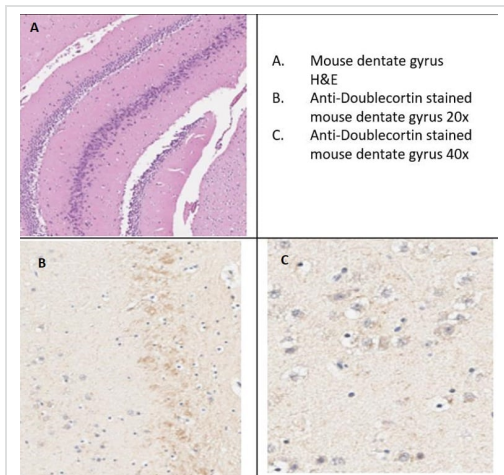
Predicted band size: 49 kDa

Observed band size: 45 kDa

Exposure time: 15 seconds

* "Doublecortin microtubule affinity is regulated by a balance of kinase and phosphatase activity at the leading edge of migrating neurons." Schaar B.T., Kinoshita K., McConnell S.K. Neuron 41:203213 (2004).

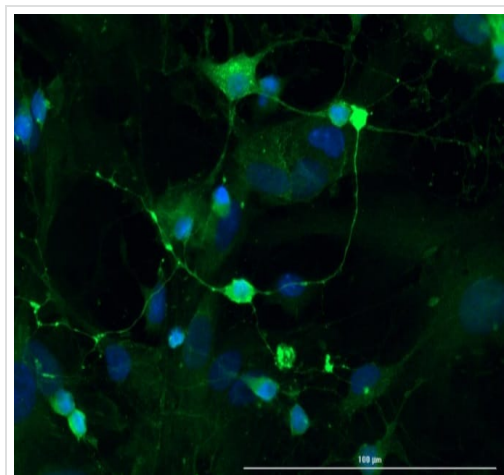
Minimal cortex defined: small portion of cortex removed prior to lysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Doublecortin antibody (ab235153)

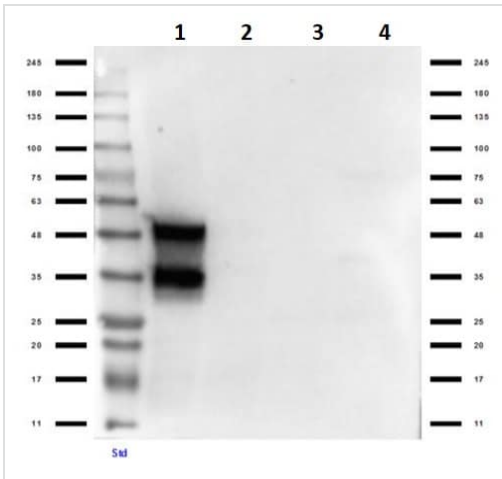
Formalin-fixed, paraffin-embedded mouse dentate gyrus tissue stained for Doublecortin with ab235153 at a 1/200 dilution (30 mins at room temperature) in immunohistochemical analysis. A Donkey anti Goat (HRP) secondary was used at 4 μ l/ml (20 mins at room temperature). Counterstained with hematoxylin. HIER using citrate buffer for 20 mins.

Pathologist analysis: Doublecortin (DCX) showed selective staining of soma and nuclei of cells in the dentate gyrus in mouse brain. The specificity of the staining is consistent with DCX staining in the Human Protein Atlas and as such, is suitable for IHC at a concentration of 1/200.



Immunocytochemistry/ Immunofluorescence - Anti-Doublecortin antibody (ab235153)

4% PFA fixed, 0.3% Triton X-100 permeabilized post-natal rat pup (PND1) heterogeneous brain cells labeling Doublecortin using ab235153 at 15 μ g/ml (O/N at 4°C) (green) in ICC/IF. The Secondary antibody is a Donkey anti-Gt IgG DyLight™ 488 conjugated preadsorbed, used at 5 μ g/ml for 1 hour at room temperature. The Nuclear counterstain is DAPI (Blue).



Western blot - Anti-Doublecortin antibody (ab235153)

All lanes : Anti-Doublecortin antibody (ab235153) at 1/1000 dilution

Lane 1 : Doublecortin (human) overexpressing HEK-293T lysate C-Myc/DDK tagged

Lane 2 : HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) cell lysate

Lane 3 : Adult mouse normal brain tissue lysate

Lane 4 : Adult rat normal brain tissue lysate

Secondary

All lanes : Donkey Anti-Goat IgG H&L (HRP) preadsorbed ([ab7125](#)) at 1/40000 dilution

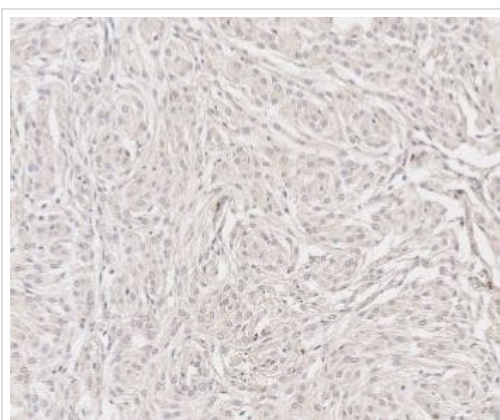
Predicted band size: 49 kDa

Observed band size: 48, 35 kDa

Exposure time: 15 seconds

Human brain tissue stained for Doublecortin using ab235153 at 1/1000 dilution in immunohistochemical analysis. The counter stain is hematoxylin.

Heat induced epitope retrieval (HIER).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Doublecortin antibody (ab235153)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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