

Datasheet for ABIN1580415 **anti-Doublecortin antibody**

2 Images



[Go to Product page](#)

Overview

Quantity:	100 µL
Target:	Doublecortin (DCX)
Reactivity:	Human, Mouse, Rat, Cow, Pig, Mammalian
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This Doublecortin antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Clone:	3E1
Isotype:	IgG2a
Purification:	affinity purified antibody

Target Details

Target:	Doublecortin (DCX)
Alternative Name:	DCX Doublecortin (DCX Products)
Background:	Doublecortin was originally discovered since defects in the gene encoding it are causative of X-linked lissencephaly, a rare group of brain malformations resulting in a smooth cerebral cortex caused by aberrant neuronal migration during development. The name Doublecortin comes from the unusual layering of the cortex in this form of lissencephaly, which appears to have a

Target Details

second deep cortical layer of neurons. This layer consists of neurons which did not migrate from the subventricular zone to the normal cortical layer. Patients with this defect suffer from seizures and mental retardation. The HGNC name for Doublecortin is DCX, and it is also known as Doublin, Lissencephalin-X, DBCN and Lis-X. Four proteins encoded by the DCX produce bands of about 35 kDa and 45 kDa on Western blots (see the Uniprot page here). The 45 kDa form is known as Lis-XA while the smaller forms are generated by alternate transcription, are all missing the first 81 amino acids of Lis-XA, and are referred to as Lis-XB, Lis-XC, Lis-XD. There are minor amino acid sequence differences between these three smaller isoforms. All of these protein contain two so-called Doublecortin domains, each about 90 amino acids long, which are believed to function in binding to microtubules, a C-terminal serine and proline rich region which may become phosphorylated in vivo. The doublecortin protein appears to function as a microtubule and actin binding protein and may interact with Lis-1, a member of the beta,-transducin or WD protein family, a protein mutations of which are also associated with lissencephaly. DCX is expressed very early in neuronal development, as neuroblasts become post-mitotic, but is lost as neurons mature. Developing neurons start to lose DCX expression about the time that they begin to express NeuN, a neuronal specific protein characteristic of more mature neurons, now known to correspond to the RNA binding protein Fox3. Antibodies to DCX are used to identify stem cells in sections and in tissue culture, and to see if neurogenesis is taking place. Our antibody stains identically to the Doublecortin (C18): sc-8066 polyclonal peptide antibody available from Santa Cruz. The HGNC name for this protein is DCX.

Application Details

Application Notes:	The antibody solution can be used at dilutions of at least 1:1,000 in immunofluorescence experiments. In western blotting using chemiluminescence it can be used at dilutions of 1:10,000 or lower.
--------------------	---

Restrictions:	For Research Use only
---------------	-----------------------

Handling

Format:	Liquid
---------	--------

Concentration:	1 mg/mL
----------------	---------

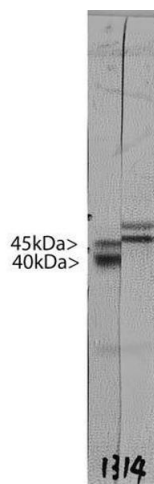
Preservative:	Sodium azide
---------------	--------------

Precaution of Use:	This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
--------------------	--

Handling

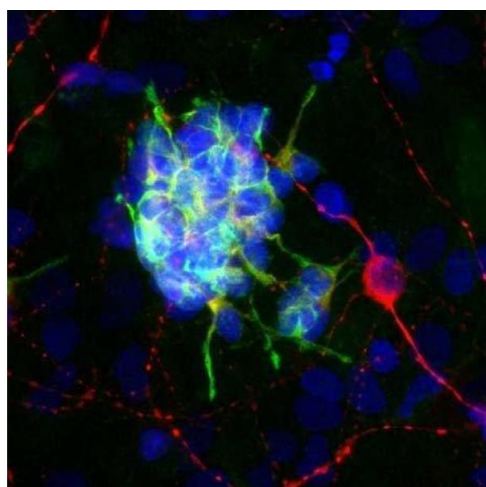
Handling Advice:	Avoid repeated freezing and thawing.
Storage:	4 °C/-20 °C
Storage Comment:	Store at 4°C short term or -20°C long term.

Images



Western Blotting

Image 1. blots of crude rat brain extract from a postnatal 3 day animal stained with ABIN1580415. Two bands at ~45 kDa and ~35 kDa show that ABIN1580415 binds to an epitope in the region of DCX shared by Lis-A, and Lis-B, Lis-C and Lis-D, the C terminal 360 amino acids of Lis-A.



Immunofluorescence

Image 2. Rat brain neural cultures stained with ABIN1580415 (green), 's chicken polyclonal antibody to MAP2 CPCA-MAP2 (red) and DNA (blue). The ABIN1580415 antibody reveals strong cytoplasmic staining in a population of small developing neurons. These cells are often found in small clumps as in these cultures, as in this particular example. Note that they are not positive for MAP2, which is characteristic of more mature neurons, and that the mature neuron shown is negative for ABIN1580415. This DCX antibody is therefore an excellent marker of developing neuronal cells.