

Product datasheet for RC221891

Doublecortin (DCX) (NM_178152) Human Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Doublecortin (DCX) (NM_178152) Human Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | Doublecortin |
| Synonyms: | DBCN; DC; LISX; SCLH; XLIS |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |
| ORF Nucleotide Sequence: | >RC221891 representing NM_178152 Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGAACCTTGATTTTGGACACTTTGACGAAAGAGATAAGACATCCAGGAACATGCGAGGCTCCCGGATGA
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ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
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Protein Sequence: >RC221891 representing NM_178152
Red=Cloning site Green=Tags(s)

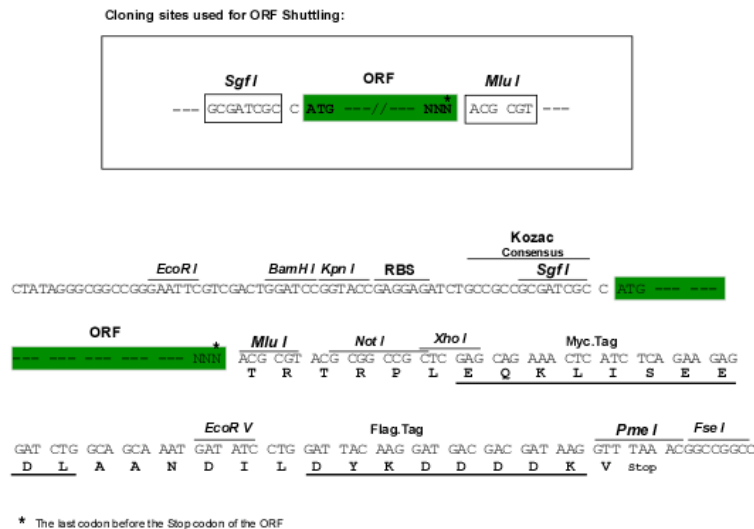
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AVSSDRFRSFDALLADLTRSLSDNINLPQGVRYIYIDGSRKIGSMDELEEGESYVCSNDFKKVEYTK
NVNPNWSVNVKTSANMKAPQSLASSNSAQARENKDFVRPKLVTIIRSGVKPRKAVRVLLNKKTAHSFEQV
LTDITEAIKLETGVVKKLYTLDGKQVTLHDFGDDDFIACGPEKFRYAQDDFSLDENECRVMKGNPSA
TAGPKASPTPQKTSAKSPGPMRRSKSPADSGNDQDANGTSSSQLSTPKSKQSPISTPTSPGSLRKHKDL
LPLSLDDSDSLGDSM

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6123_e05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_178152

ORF Size: 1095 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_178152.3](#)

RefSeq Size: 9069 bp

RefSeq ORF: 1098 bp

Locus ID: 1641

UniProt ID: [O43602](#)

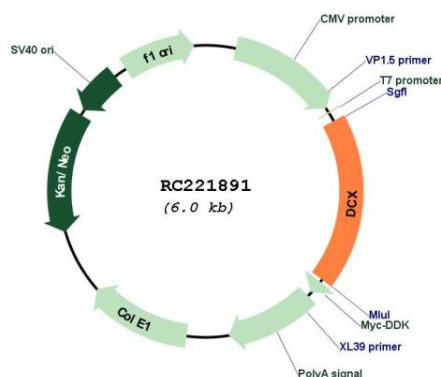
Cytogenetics: Xq23

Protein Families: Druggable Genome

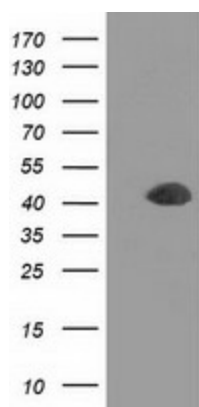
MW: 40.4 kDa

Gene Summary: 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, cognitive disability, 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. [provided by RefSeq, Sep 2010]

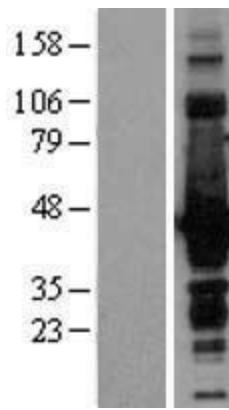
Product images:



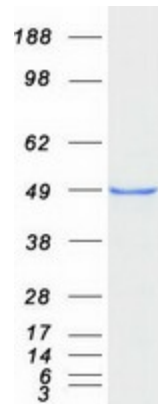
Circular map for RC221891



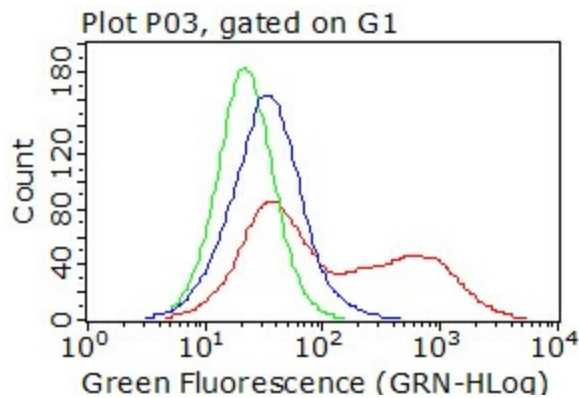
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY DCX (Cat# RC221891, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-DCX (Cat# [TA501778]). Positive lysates [LY403598] (100ug) and [LC403598] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY403598]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221891 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified DCX protein (Cat# [TP321891]). The protein was produced from HEK293T cells transfected with DCX cDNA clone (Cat# RC221891) using MegaTran 2.0 (Cat# [TT210002]).



Living HEK293T cells transfected with either RC221891 plasmid (red) or empty vector (blue) were immunostained by anti-DCX antibody ([TA501778]) or isotype control antibody (green), and then analyzed by flow cytometry (1:100).