

## 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:	DCX
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)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGAACCTGATTTTGGACACTTTGACGAAAGAGATAAGACATCCAGGAACATGCGAGGCTCCCGGATGA  
ATGGTTGCTAGCCCCACTCACAGCGCCACTGTAGTTCTACCGAACCCAGAACCTTGCAGGCACTGAG  
TAATGAGAAGAAAGCCAAGAAGGTACGTTTCTACCGCAATGGGGACCGCTACTTCAAGGGGATTGTGTAC  
GCTGTGCTCTGACCGTTTTTCGACGCTTTGACGCCTTGTGGCTGACCTGACCGGATCTCTGTCTGACA  
ACATCAACCTGCCTCAGGGAGTGCCTTACATTTACACCATTGATGGATCCAGGAAGATCGGAAGCATGGA  
TGAAGTGGAGGAAGGGAAAGCTATGTCTGTTCCTCAGACAACCTCTTTAAAAAGGTGGAGTACACCAAG  
AATGTCAATCCCAACTGGTCTGTCAACGTAACATCTGCCAATATGAAAGCCCCCAGTCCCTTGCTA  
GCAGCAACAGTGCACAGGCCAGGGAGAACAAGGACTTTGTGCGCCCAAGCTGGTTACCATCATCCGAG  
TGGGGTGAAGCCTCGGAAGGCTGTGCGTGTGCTTCTGAACAAGAAGACAGCCACTCTTTGAGCAAGTC  
CTCACTGATATCAGAAAGCCATCAAACTGGAGACCGGGTGTCAAAAACTCTACACTCTGGATGGAA  
AACAGGTAACCTGTCTCCATGATTTCTTTGGTGTGATGATGTGTTTATTGCCTGTGGTCTGAAAAATT  
TCGCTATGCTCAGGATGATTTTTCTCTGGATGAAAATGAATGCCGAGTCATGAAGGGAAACCCATCAGCC  
ACAGTGGCCAAAGGCATCCCCAACCTCAGAAGACTTCAGCCAAGAGCCCTGGTCTATGCGCCGAA  
GCAAGTCTCCAGCTGACTCAGGTAACGACCAAGACGCAAAACGGAACCTCCAGCAGCCAGCTCTACCCCC  
CAAGTCTAAGCAGTCTCCATCTCTACGCCACCAGTCTGCGAGCCTCCGGAAGCACAAGGACCTGTAC  
CTGCCTCTGCTTGGATGACTCGGACTCGCTTGGTATTCCATG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTAA



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**Protein Sequence:** >RC221891 representing NM\_178152  
Red=Cloning site Green=Tags(s)

MELDFGHFDERDKTSRNMRGSRMNGLPSPTHSAHCSFYRTRTLQALSNEKKAKKVRFYRNGDRYFKGIIV  
 AVSSDRFRSFDALLADLTRSLSDNINLPQGVRYIYIDGSRKIGSMDELEEGESYVCSNDFFKKVEYTK  
 NVNPNWSVNVKTSANMKAPQSLASSNSAQARENKDFVRPKLVTIIRSGVKPRKAVRVLLNKKTAHSFEQV  
 LTDITEAIKLETGVVKKLYTLDGKQVTLHDFFGDDDFIACGPEKFRYAQDDFSLDENECRVMKGNPSA  
 TAGPKASPTPQKTSAKSPGPMRRSKSPADSGNDQDANGTSSSQLSTPKSKQSPISPTPTSPGSLRKHKDL  
 LPLSLDSDSLGDSM

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

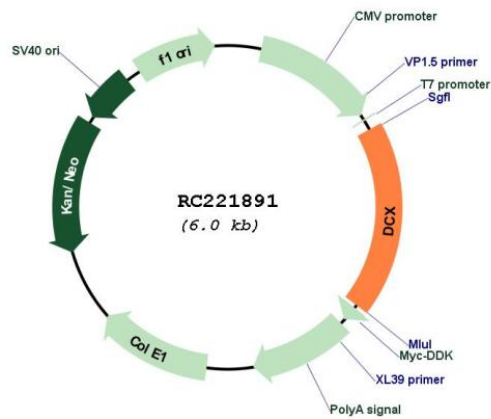
**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6123\\_e05.zip](https://cdn.origene.com/chromatograms/mk6123_e05.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

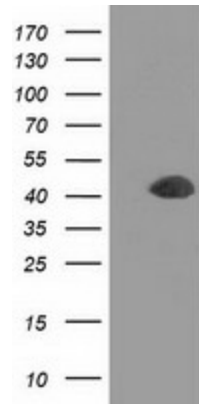


**Plasmid Map:**

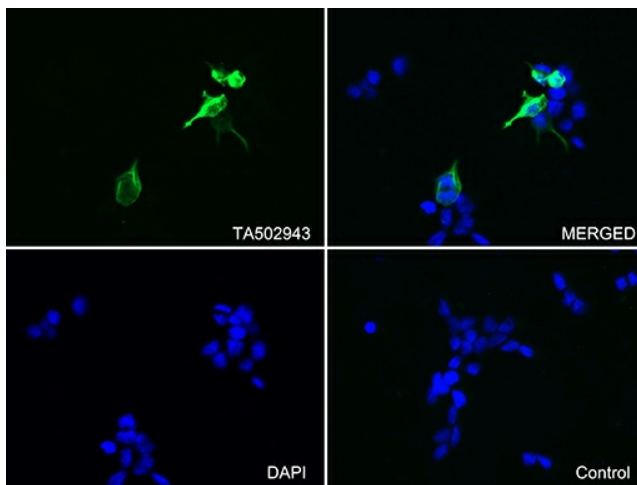


<b>ACCN:</b>	NM_178152
<b>ORF Size:</b>	1095 bp
<b>OTI Disclaimer:</b>	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), 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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_178152.3</a>
<b>RefSeq Size:</b>	9069 bp
<b>RefSeq ORF:</b>	1098 bp
<b>Locus ID:</b>	1641
<b>UniProt ID:</b>	<a href="#">O43602</a>
<b>Cytogenetics:</b>	Xq23
<b>Protein Families:</b>	Druggable Genome
<b>MW:</b>	40.4 kDa
<b>Gene Summary:</b>	<p>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]</p>

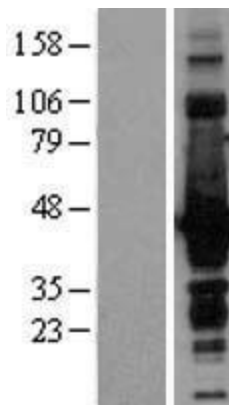
Product images:



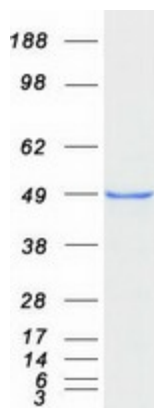
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY DCX (Cat# RC221891, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-DCX (Cat# [TA501778]). Positive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



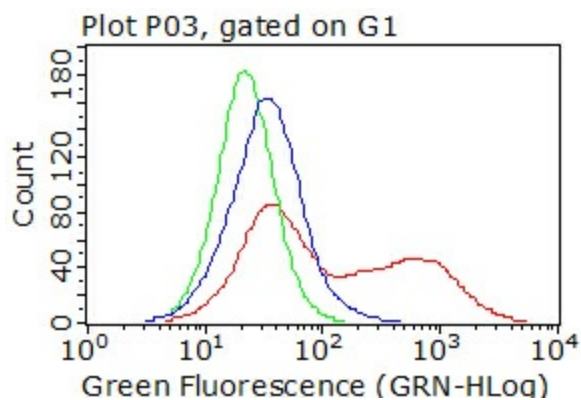
Immunofluorescent staining of 293T cells transiently transfected by pCMV6-ENTRY DCX (RC221891) using anti-DCX mouse monoclonal antibody ([TA501778], green, upper left; merged, upper right). Cell nuclei were stained with DAPI (blue, lower left). 293T cells transfected with empty vector plasmid served as negative control (merged, lower right) (1:100).



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).