

Product datasheet for **RG219931**

DCAMKL2 (DCLK2) (NM_001040260) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DCAMKL2 (DCLK2) (NM_001040260) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	DCLK2
Synonyms:	CL2; CLICK-II; CLICK2; CLIK2; DCAMKL2; DCDC3; DCDC3B; DCK2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG219931 representing NM_001040260
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCAGCACCAGGAGTATCGAGCTGGAGCACTTTGAGGAACGGGACAAAAGGCCGCGCCGGGTGCG
 GGAGAGGGGCCCCAGCTCCTCCGGGGCAGCAGCAGCTCGGGCCCAAGGGGAACGGGCTCATCCCCAG
 TCCGGCGCACAGTGCCCACTGCAGCTTCTACCGCACGCGGACCCTGCAGGCCCTCAGCTCGGAGAAGAAG
 GCCAAGAAGGCGCGCTTCTACCGGAACGGGGACCCTACTTCAAGGGCCTGGTGTGGCCATCTCCAGCG
 ACCGCTCCGGTCTTCGATGCGCTCCTCATAGAGCTCACCCGCTCCCTGTCGGACAACGTGAACCTGCC
 CCAGGGTGTCCGCACTATCTACACCATCGACGGCAGCCGGAAGGTACCAGCCTGGACGAGCTGCTGGAA
 GGTGAGAGTTACGTGTGCATCCAATGAACATTTTCGTAAGTCGATTACACAAAAATTAATCCAA
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 GCCGTGCGGATCCTTCTGAATAAAAAGACTGCTCATTCTTTGAACAAGTCTTAACAGATATCACCGAAG
 CCATTAATACTAGACTCAGGAGTCGTCAGAGGGCTCTGCACCCTGGATGGAAGCAGGTTACTTGTCTGCA
 AGACTTTTTGGTGATGACGATGTTTTATTGCATGTGGACCAGAAAAATTCGTTATGCCCAAGATGAC
 TTTGTCCTGGATCATAGTGAATGTCGTGCTGAAGTCATCTTATTCTCGATCCTCAGCTGTTAAGTATT
 CTGGATCCAAAAGCCCTGGGCCCTCTCGACGCAGCAATCACCAGCTTCAGTTAATGGAACCTCCAGCAG
 CCAACTTTCTACTCCTAAATCTACGAAATCCTCCAGTTCCTCTCCAAGTCCAGGAAGTTTCAGAGGA
 TAAAGCAGATTTCTGCTCATGGCAGATCTTCTCCAATGTAAACGGTGGACCTGAGCTTGACCGTTGCA
 TAAGCTGAAGGTGTGAATGGAACAGATGCTCTGAATCATCAACTCTTCTTGAGAAATACAAAATTTGG
 AAAGGTCAATGGTGATGGCAATTTTGCAGTAGTCAAAGAGTGTATAGACAGGTCCACTGGAAAGGATTT
 GCCCTAAAGATTATAGACAAAGCCAAATGTTGTGAAAGGAACACCTGATTGAGAATGAAGTGTCAATAC
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 GATGGCAGTGCCATGGTGTACAACCTAGCCAATGCCCTCAGGTATCTCCATGGCCTCAGCATCGTGACA
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 CTTTGGGCTTGCAGCTGTGGTAGAAGGCCCTTTATACACAGTCTGTGGCACACCCACTTATGTGGCTCCA
 GAAATCATTGCTGAAACTGGCTATGGCCTGAAGGTGGACATTTGGGCAGCTGGTGTGATCACATACATAC
 TTCTCTGTGGATCCACCATCCGAAGTGAGAACAATCTCCAGGAAGATCTCTTCGACCAGATCTTGGC
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 ATTTTCTGCAGCAAGCACTGTCAAGACAGCGGCAGGCCTGGGATGGAGCCCATCTCTCCAGTTCCCTCCT
 CAGTGGAGGAGATCCCTGTGCTGGGGAAGCAGTCCCGGCCCCACCCCTCCGGAATCTCCCACCCCCCA
 CTGTCTCCCGCTGCCCCGGGTGGTGGCGGGCAGGAACCTGGCGCCGCCACCGAGAC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG219931 representing NM_001040260
 Red=Cloning site Green=Tags(s)

MASTRSIELEHFEERDKRPRPGSRRGAPSSSGSSSSGPKGNGLIPSPAHSAHCSFYRTRTLQALSSEKK
 AKKARFYRNGDRYFKGLVFAISSDRFRSFDALLIELTRSLSDNVNLPQGVRTIYITIDGSRKVTSLDELLE
 GESYVCASNEPFRKVDYTKNINPNWSVNIKGGTSRALAAASSVKSEVKESKDFIKPKLVTVIRSGVKPRK
 AVRILLNKKTAHSFEQVLTIDITEAIKLD SGVVKRLCTLDGKQVTC LQDFFGDDVFIACGPEKFRYAQDD
 FVLDHSECRVLKSSYSRSSAVKYSGSKSPGSPRRSKSPASVNGTPSSQLSTPKSTKSSSSSPTSPGSFRG
 LKQISAHGRSSSNVNGGPELDRCSPEGVNGNRCSESTLLEKYKIGKVI GDGNFAVVKECIDRSTGKEF
 ALKIIDKAKCCGKEHLIENEVILRRVKHPNIIMLVEEMETATELFLVMELVKGGDLFDAITSSTKYTER
 DGSAMVYNLANALRYLHGLSIVHRDIKPENLLVCEYPDGTSKSLKLGDFGLATVVEGPLYVCGTPTYVAP
 EIIAETGYGLKVDIWAAGVITYILLCGFPPFRSENQLQEDLFDQILAGKLEFPAPYWDNITDSAKELISQ
 MLQVNVEARCTAGQILSHPWVSDASQENNMQAEVTGKLGKQHFNNALPKQNSTTTGVSVIMNTALDKEGQ
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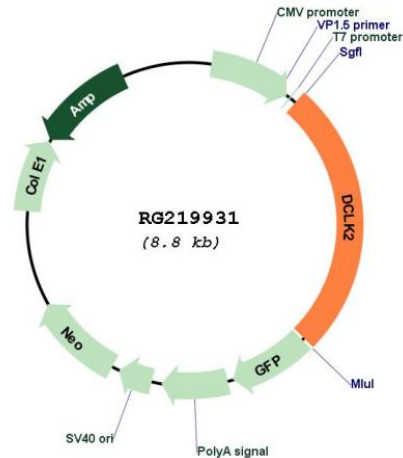
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:


ACCN: NM_001040260

ORF Size: 2298 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.

RefSeq: [NM_001040260.1](#), [NP_001035350.1](#)

RefSeq Size: 3603 bp

RefSeq ORF: 2301 bp

Locus ID: 166614

UniProt ID: [Q8N568](#)

Cytogenetics: 4q31.23-q31.3

Protein Families: Druggable Genome, Protein Kinase

Gene Summary: This gene encodes a member of the protein kinase superfamily and the doublecortin family. The protein encoded by this gene contains two N-terminal doublecortin domains, which bind microtubules and regulate microtubule polymerization, a C-terminal serine/threonine protein kinase domain, which shows substantial homology to Ca²⁺/calmodulin-dependent protein kinase, and a serine/proline-rich domain in between the doublecortin and the protein kinase domains, which mediates multiple protein-protein interactions. The microtubule-polymerizing activity of the encoded protein is independent of its protein kinase activity. Mouse studies show that the DCX gene, another family member, and this gene share function in the establishment of hippocampal organization and that their absence results in a severe epileptic phenotype and lethality, as described in human patients with lissencephaly. Multiple alternatively spliced transcript variants have been identified. [provided by RefSeq, Sep 2010]