

Product datasheet for **RG239313**

CDT2 (DTL) (NM_001286230) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CDT2 (DTL) (NM_001286230) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CDT2
Synonyms:	CDT2; DCAF2; L2DTL; RAMP
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RG239313 representing NM_001286230.
 Blue=ORF Red=Cloning site Green=Tag(s)

```

GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCCGCATCGCC
ATGCTCTTCAATTCCGGTCTCCGCCAGCCCAGCTTGGCGTCTGAGAAATGCTCCCAATATGGAACAT
GTACTAGCAGTTGCCAATGAAGAAGGCTTTGTTTCGATTGTATAACACAGAATCACAAAGTTTCAGAAAG
AAGTGCTTCAAAGAATGGATGGCTCACTGGAATGCCGTCTTTGACCTGGCCTGGGTTCTGGTGAACCT
AAACTTGTACAGCAGCAGGTGATCAAACAGCCAAATTTGGGACGTAAGGCTGGTGAGCTGATTGGA
ACATGCAAAGGTCATCAATGCAGCCTCAAGTCAGTTGCCTTTTCTAAGTTTGAGAAAGCTGATTCTGT
ACGGGTGGAAGAGATGGCAACATTATGGTCTGGGATACCAGGTGCAACAAAAAGATGGGTTTTATAGG
CAAGTGAATCAAATCAGTGGAGCTACAATACCTCAGACAAGCAAACCCCTTCAAACCCCAAGAAGAAA
CAGAATCAAAGGACTTGCTCCTTCTGTGGATTTCCAGCAAAGTGTACTGTGGTCTCTTTCAAGAC
GAGAATACCTTAGTCTCAGCAGGAGCTGTGGATGGGATAATCAAAGTATGGGATTTACGTAAGAATTAT
ACTGCTTATCGACAAGAACCCATAGCATCCAAGTCTTTCTGTACCCAGGTAGCAGCACTCGAAAACCT
GGATATCAAGTCTGATTTTGGATTCCACTGGCTCTACTTTATTTGCTAATTGCACAGACGATAACATC
TACATGTTAATATGACTGGGTTGAAGACTTCTCCAGTGGCTATTTTCAATGGACACCAGAACTCTACC
TTTTATGTAAATCCAGCCTTAGTCCAGATGACCAGTTTTTAGTCAGTGGCTCAAGTGTGAAGCTGCC
TACATATGGAAGGTCTCCACACCCTGGCAACCTCTACTGTGCTCCTGGGTCAATTCTCAAGAGGTACG
TCTGTGTGCTGGTGTCCATCTGACTTCACAAAGATTGCTACCTGTTCTGTGACAATACACTAAAAATC
TGGCGCTTGAATAGAGGCTTAGAGGAGAAACCAGGAGGTGATAAACTTTCCACGGTGGGTGGCCCTCT
CAGAAGAAAAAGAGTCAAGACCTGGCCTAGTAACAGTAACGAGTAGCCAGAGTACTCTGCCAAAGCC
CCCAGGGTAAAGTGCAATCCATCCAATTCTTCCCGTCATCCGCAGCTTGTGCCCAAGCTGTGCTGGA
GACCTCCCTCTTCTCAAATACTCCTACGTTCTCTATTAACAACTCTCCTGCCAAGGCCGGTCTCCC
ATCAACAGAAGAGGCTCTGTCTCCTCCGCTCTCCCAAGCCACCTTCATCTTTCAAGATGTCGATTAGA
AACTGGGTGACCCGAACACCTTCTCATACCACCCATCACTCCACCTGTTCCGGAGACCAAGATCATG
TCTCCGAGAAAAGCCCTTATTCTGTGAGCCAGAAGTCATCCCAAGCAGAGGCTTGTCTGAGTCTAGA
AATAGAGTAAAGAGGAGGCTAGACTCAAGCTGTCTGGAGAGTGTGAAACAAAAGTGTGTGAAGAGTTGT
AACTGTGTGACTGAGCTTGTGGCCAAGTTGAAAATCTTCATTTGGATCTGTGCTGCCTTGTGTTAAC
CAGGAAGACCTTAGTAAGGACTCTTAGGTCCTACCAAAATCAAGCAAAATGAAGGAGCTGGTACCAGT
ATCTCAGAGCCTCCGTCTCCTATCAGTCCGTATGCTTCAGAAAGCTGTGGAACGCTACCTCTTCCCTTG
AGACCTTGTGGAGAAGGCTCTGAAATGGTAGGCAAAGAGAATAGTTCCCCAGAGAATAAAAACTGGTTG
TTGGCCATGGCAGCCAAACGGAAGGCTGAGAATCCATCTCCACGAAGTCCGTATCCCAGACACCCAAT
TCCAGGAGACAGAGCGGAAAGACATTGCCAAGCCCGGTACCATCACGCCAGCTCCATGAGGAAAAATC
TGCACATACTTCCATAGAAAGTCCCAGGAGGACTTCTGTGGTCTGAACACTCAACAGAATTA
ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAAAC
  
```

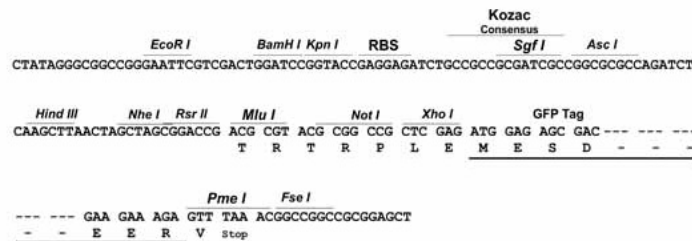
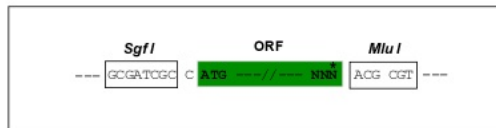
Protein Sequence: >Peptide sequence encoded by RG239313
 Blue=ORF Red=Cloning site Green=Tag(s)

MLFNSVLRQPQLGVLRNAPNMEHVLAVANEEGFVRLYNTEQSFRKKCFKEWMAHWNVFDLAWVPGEL
 KLVTAGDQTAKFWDVKAGELIGTCKGHQCSLKSVAFSKFEKAVFCTGGRDGNIMVWDTRCNKKDGFYR
 QVNQISGAHNTSDKQTPSKPKKKQNSKGLAPSVDFQQSVTVVLFQDENTLVSAGAVDGIKIVWDLRKNY
 TAYRQEPIASKSFLYPGSSSTRKLYSSLLDSTGSTLFLANCTDDNIYMFNMTGLKTPVAIFNGHQNST
 FYKSSSLPDDQFLVSGSDEAAIYWKVSTPWQPPTVLLGHSQEVTSVCWCPSDFTKIATCSDNTLKI
 WRLNRGLEEKPGGDKLSTVGWASQKKKESRPLVTVTSSQSTPAKAPRVKCNPSNSSPSSAACAPSCAG
 DLPLPSNTPTFSIKTSPAKARSPINRRGSVSSVSPKPPSSFKMSIRNWVTRTPSSSPPITPPASETKIM
 SPRKALIPVSQKSSQAEACSESRNRVKRRLDSSCLESVKQKCVKSCNCVTELDGQVENLHLDLCLLAGN
 QEDLSKDSLGPCKSSKIEGAGTISEPPSPI SPYASESCGTLPLPLRPCGEGSEMVGKENS SPENKNWL
 LAMAAKRKAENSPRSPSSQTPNSRRQSGKTLPSVITIPSSMRKICTYFHRKSQEDFCGPEHSTEL
 TRTRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKMKSTKGALTFSPYLLSHV
 MGYGFYHFGTYPSGYENPFLHAINNGGYTNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPEDE
 SVIFTDKIIRS NATVEHLHPMGDNDLDGSFTRTFLRDGGYYSSVVD SHMHFKSAIHP SILQNGGPMFA
 FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



ACCN: NM_001286230

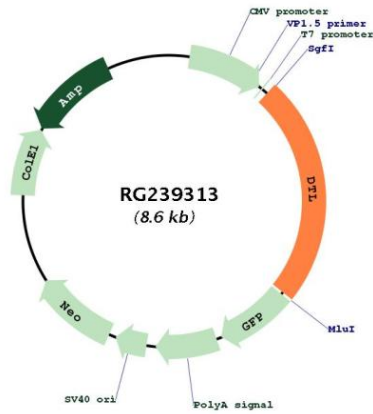
ORF Size: 2064 bp

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).
RefSeq:	NM_001286230.1 , NP_001273159.1
RefSeq Size:	4485 bp
RefSeq ORF:	2067 bp
Locus ID:	51514
Cytogenetics:	1q32.3
Protein Families:	Druggable Genome
MW:	75.5 kDa
Gene Summary:	<p>Substrate-specific adapter of a DCX (DDB1-CUL4-X-box) E3 ubiquitin-protein ligase complex required for cell cycle control, DNA damage response and translesion DNA synthesis. The DCX(DTL) complex, also named CRL4(CDT2) complex, mediates the polyubiquitination and subsequent degradation of CDT1, CDKN1A/p21(CIP1), FBH1, KMT5A and SDE2 (PubMed:16861906, PubMed:16949367, PubMed:16964240, PubMed:17085480, PubMed:18703516, PubMed:18794347, PubMed:18794348, PubMed:19332548, PubMed:20129063, PubMed:23478441, PubMed:23478445, PubMed:23677613, PubMed:27906959). CDT1 degradation in response to DNA damage is necessary to ensure proper cell cycle regulation of DNA replication (PubMed:16861906, PubMed:16949367, PubMed:17085480). CDKN1A/p21(CIP1) degradation during S phase or following UV irradiation is essential to control replication licensing (PubMed:18794348, PubMed:19332548). KMT5A degradation is also important for a proper regulation of mechanisms such as TGF-beta signaling, cell cycle progression, DNA repair and cell migration (PubMed:23478445). Most substrates require their interaction with PCNA for their polyubiquitination: substrates interact with PCNA via their PIP-box, and those containing the 'K+4' motif in the PIP box, recruit the DCX(DTL) complex, leading to their degradation. In undamaged proliferating cells, the DCX(DTL) complex also promotes the 'Lys-164' monoubiquitination of PCNA, thereby being involved in PCNA-dependent translesion DNA synthesis (PubMed:20129063, PubMed:23478441, PubMed:23478445, PubMed:23677613). The DDB1-CUL4A-DTL E3 ligase complex regulates the circadian clock function by mediating the ubiquitination and degradation of CRY1 (PubMed:26431207).[UniProtKB/Swiss-Prot Function]</p>

Product images:



Circular map for RG239313