

## Product datasheet for **RG238348**

### CDT2 (DTL) (NM\_001286229) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CDT2 (DTL) (NM_001286229) 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)
ORF Nucleotide Sequence:	>RG238348 representing NM_001286229. Blue=ORF Red=Cloning site Green=Tag(s)

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GCTCGTTTGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGGGATATTCAAGTCTGATTTTGGATTCCACTGGCTCTACTTTATTTGCTAATTGCACAGACGATAAC
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ACCTTTTATGTAATCCAGCCTTAGTCCAGATGACCAGTTTTTGTAGTGGCTCAAGTATGAAGCT
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GCCCCAGGGTAAAGTGAATCCATCCAATTCTCCCCGTCATCCGCAGCTTGTGCCCAAGCTGTGCT
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AATTCCAGGAGACAGAGCGAAAGACATTGCCAAGCCCGTCCACATCACGCCAGCTCCATGAGGAAA
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ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC
```



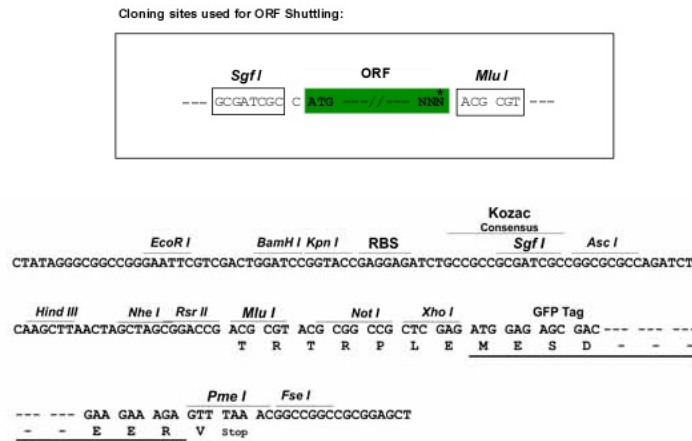
[View online »](#)

**Protein Sequence:** >Peptide sequence encoded by RG238348  
 Blue=ORF Red=Cloning site Green=Tag(s)

MGYSSLILDSTGSTLFANCTDDNIYMFNMTGLKTPVAIFNGHQNSTFYVKSSLSPDDQFLVSGSSDEA  
 AYIWKVSTPWQPPTVLLGHSQEVTSVCWCPSDFTKIATCSDNTLKIWRLNRGLEEKPGGDKLSTVGWA  
 SQKKKESRPLVTVTSSQSTPAKAPRVKCNPSNSPSSAACAPSCAGDLPLPSNTPTFSIKTSPAKARS  
 PINRRGSVSSVSPKPPSSFKMSIRNWVTRTPSSSPPITPPASETKIMSPRKALIPVSQKSSQAEACSES  
 RNRVKRRLDSSCLESVKQKCVKSCNCVTELDGQVENLHLDLCCLAGNQEDLSKDSLGPTKSSKIEGAGT  
 SISEPPSPISPYASESCGTLPLRCPGEGSEMVGKENS SPENKNWLLAMA AKRKAENSPRSPSSQTP  
 NSRRQSGKTLPSVITITPSSMRKICTYFHRKSQEDFCGPEHSTEL  
 TRTRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKMSTKGALTFSPYLLSHV  
 MGYGFYHFGTYPGYNPFLHAINNGGYNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPED  
 SVIFTDKIIIRSNATVEHLHPMGDNDLDGSFTRTFLRDGGYSSVVD SHMHFKSAIHPSILQNGGPMFA  
 FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001286229

**ORF Size:** 1377 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\\_001286229.1](#), [NP\\_001273158.1](#)

RefSeq Size: 4381 bp

RefSeq ORF: 1380 bp

Locus ID: 51514

UniProt ID: [Q9NZJ0](#)

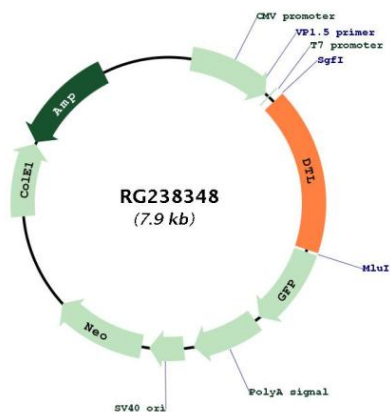
Cytogenetics: 1q32.3

Protein Families: Druggable Genome

MW: 49.8 kDa

**Gene Summary:** 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]

Product images:



Circular map for RG238348