

Product datasheet for **RG210600**

DUT (NM_001025249) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DUT (NM_001025249) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	DUT
Synonyms:	dUTPase
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG210600 representing NM_001025249 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGACTCCCTCTGCCCTCGCCCCGCGCTCTGCTACCATTCCTTACGTCTCTGCTTCGCTCAGCGATGC
AAAACGCGCGAGGCGCACGGCAGAGGGCCGAAGCCGCGGTACTCTCCGGGCCAGGCCGCCCTCGGCC
CGCCGCGCAGCACGGGATCCCCGGCCGCTGTCCAGCGCTGGCCGCTGAGCCAAGGCTGCCGGGAGCC
AGTACAGTCGGGGCCGCTGGCTGGAAGGGCGAGCTTCTAAGGCGGGGGAAGCCCGCGCCGGGGCCGG
AGACACCCGCCATTTACCCAGTAAGCGGGCCCGCCTCGGAGGTGGGCGCATGCAGCTCCGCTTTGC
CCGGCTCTCCGAGCAGCCACGGCCCCACCCGGGGCTCCGCGCGCGCCGGGCTACGACCTGTACAGT
GCCTATGATTACACAATACCACCTATGGAGAAAGCTGTTGTGAAAACGGACATTCAGATAGCGCTCCCTT
CTGGGTGTTATGGAAGAGTGGCTCCACGGTCAGGCTTGGCTGCAAAACACTTTATTGATGTAGGAGCTGG
TGTCATAGATGAAGATTAGAGGAAATGTTGGTGTGTACTGTTAATTTGGCAAAGAAAAGTTTGAA
GTCAAAAAGGTGATCGAATTGCACAGCTCATTTGCGAACGGATTTTTATCCAGAAATAGAGAAGTTC
AAGCCTTGATGACACCGAAAGGGTTCCAGGAGTTTTGGTTCCTGAAAGAAT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG210600 representing NM_001025249
 Red=Cloning site Green=Tags(s)

MTPLCPRPALCYHFLTSLLRSAMQNARGARQRAEAAVLSGPGPPLGAAQHGIPRPLSSAGRLSQGCRGA
 STVGAAGWKGELPKAGGSPAPGPETPAISPSKRARPAEVGGMQLRFARLSEHATAPTRGSARAAGYDLYS
 AYDYTIIPMEKAVVKTDIQIALPSGCYGRVAPRSGLAAKHFIDVGAGVIDEDYRGNVGVVLFNFGKEKFE
 VKKGDRIAQLICERIFYPEIEEVQALDDTERGSGGFGSTGKN

TRTRPLE - GFP Tag - V

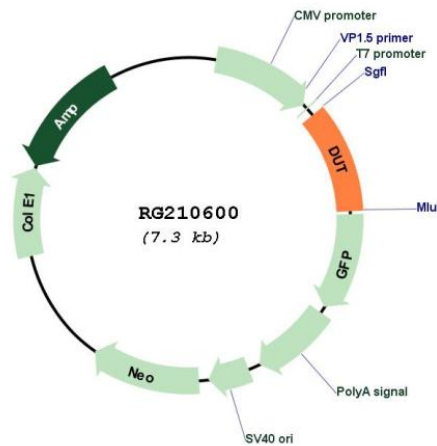
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_001025249

ORF Size: 423 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:	<ol style="list-style-type: none">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_001025249.1 , NP_001020420.1
RefSeq Size:	1830 bp
RefSeq ORF:	426 bp
Locus ID:	1854
UniProt ID:	P33316
Cytogenetics:	15q21.1
Protein Families:	Druggable Genome
Protein Pathways:	Metabolic pathways, Pyrimidine metabolism
Gene Summary:	This gene encodes an essential enzyme of nucleotide metabolism. The encoded protein forms a ubiquitous, homotetrameric enzyme that hydrolyzes dUTP to dUMP and pyrophosphate. This reaction serves two cellular purposes: providing a precursor (dUMP) for the synthesis of thymine nucleotides needed for DNA replication, and limiting intracellular pools of dUTP. Elevated levels of dUTP lead to increased incorporation of uracil into DNA, which induces extensive excision repair mediated by uracil glycosylase. This repair process, resulting in the removal and reincorporation of dUTP, is self-defeating and leads to DNA fragmentation and cell death. Alternative splicing of this gene leads to different isoforms that localize to either the mitochondrion or nucleus. A related pseudogene is located on chromosome 19. [provided by RefSeq, Jul 2008]