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Product datasheet for RC221635

DUT (NM_001948) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DUT (NM_001948) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	DUT
Synonyms:	dUTPase
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC221635 representing NM_001948
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGCCCTGCTCTGAAGAGACACCCGCCATTTCACCCAGTAAGCGGGCCCGGCCTGCGGAGGTGGGCGGCA
TGCAGCTCCGCTTTGCCCGGCTCTCCGAGCACGCCACGGCCCCCACCCGGGGCTCCGCGCGCGCCGCGGG
CTACGACCTGTACAGTGCCTATGATTACACAATACCACCTATGGAGAAAGCTGTTGTGAAAACGGACATT
CAGATAGCGCTCCCTTCTGGGTGTTATGGAAGAGTGGCTCCACGGTCAGGCTTGGCTGCAAAACACTTTA
TTGATGTAGGAGCTGGTGTCATAGATGAAGATTATAGAGGAAATGTTGGTGTTGTACTGTTTAATTTTGG
CAAAGAAAAGTTTGAAGTCAAAAAAGGTGATCGAATTGCACAGCTCATTTGCGAACGGATTTTTTATCCA
GAAATAGAAGAAGTTCAAGCCTTGGATGACACCGAAAGGGGTTCAGGAGGTTTTGGTTCCACTGGAAAGA
AT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC221635 representing NM_001948
Red=Cloning site Green=Tags(s)

MPCSEETPAISPSKRARPAEVGGMQLRFARLSEHATAPTRGSARAAGYDLYSAYDYTIPPMEKAVVKTDI
QIALPSGCYGRVAPRSGLAAKHFIDVGAGVIDEDYRGNVGVVLFNFGKEKFEVKKGDRIAQLICERIFYP
EIEEVQALDDTERGSGGFGSTGKN

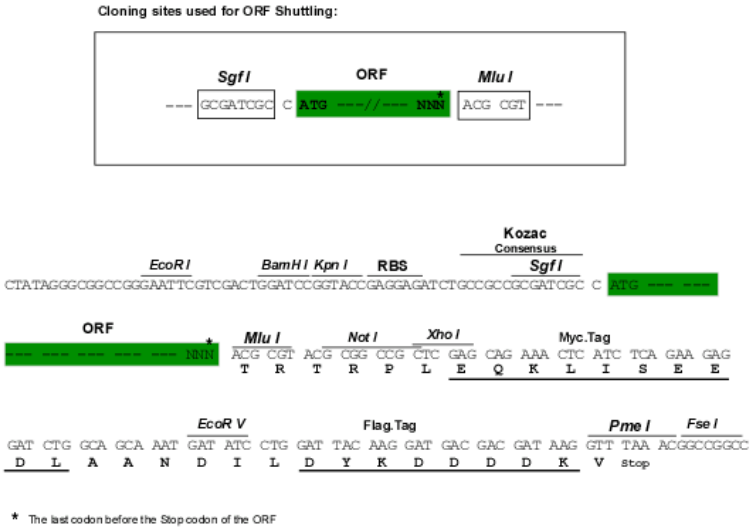
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6110_g06.zip

View online »

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001948

ORF Size: 492 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_001948.4

RefSeq Size: 1874 bp

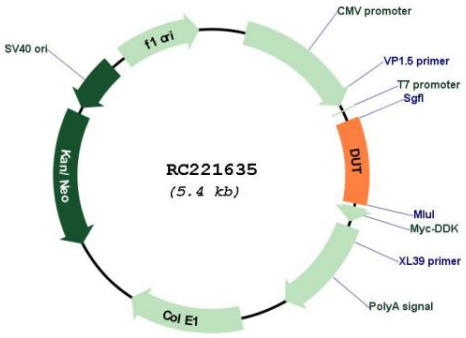
RefSeq ORF: 495 bp

Locus ID: 1854

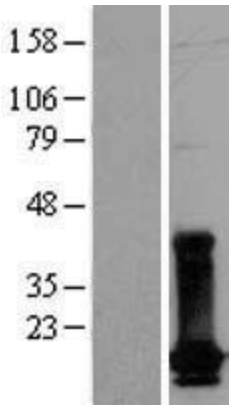
UniProt ID: P33316

Cytogenetics:	15q21.1
Domains:	dUTPase
Protein Families:	Druggable Genome
Protein Pathways:	Metabolic pathways, Pyrimidine metabolism
MW:	17.6 kDa
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]

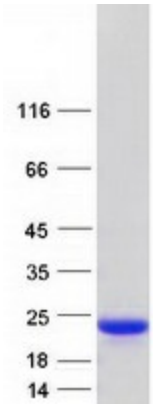
Product images:



Circular map for RC221635



Western blot validation of overexpression lysate (Cat# [LY400715]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221635 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified DUT protein (Cat# [TP321635]). The protein was produced from HEK293T cells transfected with DUT cDNA clone (Cat# RC221635) using MegaTran 2.0 (Cat# [TT210002]).