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Product datasheet for SC118933

DUT (NM_001948) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DUT (NM_001948) Human Untagged Clone
Tag:	Tag Free
Symbol:	DUT
Synonyms:	dUTPase
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>NCBI ORF sequence for NM_001948, the custom clone sequence may differ by one or more nucleotides

ATGCCCTGCTCTGAAGAGACACCCGCCATTTCACCCAGTAAGCGGGCCCGGCCTGCGGAGGTGGGCGGCA
TGCAGCTCCGCTTTGCCCGGCTCTCCGAGCACGCCACGGCCCCCACCCGGGGCTCCGCGCGCGCCGCGGG
CTACGACCTGTACAGTGCCTATGATTACACAATACCACCTATGGAGAAAGCTGTTGTGAAAACGGACATT
CAGATAGCGCTCCCTTCTGGGTGTTATGGAAGAGTGGCTCCACGGTCAGGCTTGGCTGCAAAACACTTTA
TTGATGTAGGAGCTGGTGTCATAGATGAAGATTATAGAGGAAATGTTGGTGTTGTACTGTTTAATTTTGG
CAAAGAAAAGTTTGAAGTCAAAAAAGGTGATCGAATTGCACAGCTCATTTGCGAACGGATTTTTTATCCA
GAAATAGAAGAAGTTCAAGCCTTGGATGACACCGAAAGGGGTTCAGGAGGTTTTGGTTCCACTGGAAAGA
ATTAA

5' Read Nucleotide Sequence:	>OriGene 5' read for NM_001948 unedited CACGAGGCGACGCTCATCGTGCGCTCTCCTCTTCCCCCGGTGGTCTCCTCGCTCGCCTTC TGGCTCTGCCATGCCCTGCTCTGAAGAGACACCCGCCATTTCACCCAGTAAGCGGGCCCG GCCTGCGGAGGTGGGCGGCATGCAGCTCCGCTTTGCCCGGCTCTCCGAGCACGCCACGGC CCCCACCCGGGGCTCCGCGCGCGCCGCGGGCTACGACCTGTACAGTGCCTATGATTACAC AATACCACCTATGGAGAAAGCTGTTGTGAAAACGGACATTCAGATAGCGCTCCCTTCTGG GTGTTATGGAAGAGTGGCTCCACGGTCAGGCTTGGCTGCAAAACACTTTATTGATGTAGG AGCTGGTGTCATAGATGAAGATTATAGAGGAAATGTTGGTGTTGTACTGTTTAATTTTGG CAAAGAAAAGTTTGAAGTCAAAAAAGGTGATCGAATTGCACAGCTCATTTGCGAACGGAT TTTTTATCCAGAAATAGAAGAAGTTCAAGCCTTGGATGACACCGAAA
Restriction Sites:	NotI-NotI
ACCN:	NM_001948

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Insert Size:	1600 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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_001948.3, NP_001939.1
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
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] Transcript Variant: This variant (2), also known as DUT-N, uses a different 5' exon, compared to variant 1. It encodes isoform 2, which has a shorter, distinct N-terminus that lacks the mitochondrial targeting sequence, compared to isoform 1.