

## Recombinant Human DUT, GST-tagged

Cat. No. DUT-12221H Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	Recombinant Human DUT protein, fused to GST-tag, was expressed in E.coli and purified by GSH-sepharose.
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>ProteinLength</b>	89-252a.a.
<b>Description</b>	<p>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.</p>
<b>Storage</b>	The protein is stored in PBS buffer at -20°C. Avoid repeated freezing and thawing cycles.
<b>Storage Buffer</b>	1M PBS (58mM Na <sub>2</sub> HPO <sub>4</sub> , 17mM NaH <sub>2</sub> PO <sub>4</sub> , 68mM NaCl, pH8. ) added with 100mM GSH and 1% Triton X-100, 15% glycerol.

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## GENE INFORMATION

<b>Gene Name</b>	DUT deoxyuridine triphosphatase [ Homo sapiens ]
<b>Official Symbol</b>	DUT
<b>Synonyms</b>	DUT; deoxyuridine triphosphatase; dUTP pyrophosphatase; deoxyuridine 5-triphosphate nucleotidohydrolase, mitochondrial; dUTPase; dUTP nucleotidohydrolase; FLJ20622;
<b>Gene ID</b>	1854
<b>mRNA Refseq</b>	NM_001025248
<b>Protein Refseq</b>	NP_001020419
<b>MIM</b>	601266
<b>UniProt ID</b>	P33316
<b>Chromosome Location</b>	15q21.1
<b>Pathway</b>	Metabolic pathways, organism-specific biosystem; Metabolism, organism-specific biosystem; Metabolism of nucleotides, organism-specific biosystem; Pyrimidine biosynthesis, organism-specific biosystem; Pyrimidine metabolism, organism-specific biosystem; Pyrimidine metabolism, organism-specific biosystem; Pyrimidine metabolism, conserved biosystem;
<b>Function</b>	dUTP diphosphatase activity; hydrolase activity; protein binding;

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