

Recombinant Human DUT, GST-tagged

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

SPECIFICATION

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

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

GENE INFORMATION

Gene Name	DUT deoxyuridine triphosphatase [Homo sapiens]
Official Symbol	DUT
Synonyms	DUT; deoxyuridine triphosphatase; dUTP pyrophosphatase; deoxyuridine 5-triphosphate nucleotidohydrolase, mitochondrial; dUTPase; dUTP nucleotidohydrolase; FLJ20622;
Gene ID	1854
mRNA Refseq	NM_001025248
Protein Refseq	NP_001020419
MIM	601266
UniProt ID	P33316
Chromosome Location	15q21.1
Pathway	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;
Function	dUTP diphosphatase activity; hydrolase activity; protein binding;

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