

**DUT Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP14203b****Specification**

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**DUT Antibody (C-term) Blocking Peptide - Product Information**Primary Accession [P33316](#)**DUT Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 1854**Other Names**

Deoxyuridine 5'-triphosphate nucleotidohydrolase, mitochondrial, dUTPase, dUTP pyrophosphatase, DUT

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**DUT Antibody (C-term) Blocking Peptide - Protein Information****Name** DUT**Function**

Catalyzes the cleavage of 2'-deoxyuridine 5'-triphosphate (dUTP) into 2'-deoxyuridine 5'-monophosphate (dUMP) and inorganic pyrophosphate and through its action efficiently prevents uracil misincorporation into DNA and at the same time provides dUMP, the substrate for de novo thymidylate biosynthesis (PubMed:<a href="http://www.uniprot.org/citations/17880943" target="\_blank">17880943</a>, PubMed:<a href="http://www.uniprot.org/citations/8631816" target="\_blank">8631816</a>, PubMed:<a href="http://www.uniprot.org/citations/8805593" target="\_blank">8805593</a>). Inhibits peroxisome proliferator- activated receptor (PPAR) activity by binding of its N-terminal to PPAR, preventing the latter's dimerization with retinoid X receptor (By similarity). Essential for embryonic development (By similarity).

**Cellular Location**

[Isoform 2]: Nucleus

**Tissue Location**

Found in a variety of tissues. Isoform 3 expression is constitutive, while isoform 2 expression correlates with the onset of DNA replication (at protein level). Isoform 2 degradation coincides with the cessation of nuclear DNA replication (at protein level)

## **DUT Antibody (C-term) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

## **DUT Antibody (C-term) Blocking Peptide - Images**

## **DUT Antibody (C-term) Blocking Peptide - Background**

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.

## **DUT Antibody (C-term) Blocking Peptide - References**

Takatori, H., et al. Liver Int. 30(3):438-446(2010) Quesada-Soriano, I., et al. Biochimie 92(2):178-186(2010) Chanson, A., et al. Am. J. Clin. Nutr. 89(6):1927-1936(2009) Takacs, E., et al. FEBS Lett. 583(5):865-871(2009) Venkatesan, K., et al. Nat. Methods 6(1):83-90(2009)