10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DUT Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP14203b

Specification

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:17880943, PubMed:8631816, PubMed:8805593). 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)

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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 nucleotidemetabolism. The encoded protein forms a ubiquitous, homotetramericenzyme that hydrolyzes dUTP to dUMP and pyrophosphate. Thisreaction serves two cellular purposes: providing a precursor (dUMP)for the synthesis of thymine nucleotides needed for DNAreplication, and limiting intracellular pools of dUTP. Elevatedlevels of dUTP lead to increased incorporation of uracil into DNA,which induces extensive excision repair mediated by uracilglycosylase. This repair process, resulting in the removal andreincorporation of dUTP, is self-defeating and leads to DNAfragmentation and cell death. Alternative splicing of this geneleads to different isoforms that localize to either themitochondrion or nucleus. A related pseudogene is located onchromosome 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)