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DUT Rabbit pAb

Catalog # AP98718

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P33316
Other Accession	P33316
Reactivity	Human
Predicted	Rat, Pig, Mouse, Rabbit, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	26563
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DUT
Epitope Specificity	191-237/252
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the dUTPase family.
SUBUNIT	Homotrimer.
Post-translational modifications	Nuclear isoform 2 is phosphorylated in vivo on Ser-11, a reaction that can be catalyzed in vitro by CDC2. Phosphorylation in mature T-cells occurs in a cell cycle-dependent manner. Isoform 3 is not phosphorylated. The initiator methionine is cleaved in isoform 2.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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].

Additional Information

Gene ID	1854
Other Names	BMFDMS; dUTPase; 5031412I06Rik; 5133400F09Rik; D2Bwg0749e; Dutp; PIP4; DUT_HUMAN; DUT; dUTP pyrophosphatase; 3.6.1.23; DUT_RAT; PPAR-interacting protein 4 (PIP4); deoxyuridine triphosphatase; dUTP diphosphatase

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.