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DNA Polymerase iota Rabbit pAb

Catalog # AP98748

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9UNA4
Other Accession	Q9UNA4
Reactivity	Rat
Predicted	Human, Mouse, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	83006
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DNA Polymerase iota
Epitope Specificity	51-150/740
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 DNA polymerase type-Y family. Contains 1 umuC domain.
SUBUNIT	Interacts with REV1 (By similarity). Interacts with POLH.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	DNA polymerase activity is essential for replication, repair, recombination and mutagenesis. DNA polymerases can often bypass DNA lesions that block DNA replication, thereby allowing the replication of damaged DNA. One such DNA polymerase is the distributive enzyme DNA Pol i, which is encoded by the POLI gene. POLI is located on human chromosome 18q21.2, a region often implicated in the etiology of many human cancers. At thymine templates, DNA Pol i is highly error-prone when replicating undamaged DNA in that it favors the misincorporation of guanine over the correct nucleotide, adenosine. DNA Pol i also promotes the replication of damaged DNA by misincorporating deoxynucleotides opposite DNA lesions. DNA Pol i acts sequentially with DNA Pol Ω, which is essential for damage-induced mutagenesis, to complete the DNA lesion bypass. Therefore, replication involving DNA Pol i is likely to be highly mutagenic.

Additional Information

Gene ID	11201
Other Names	RAD30B; RAD3OB; eta2; POLI_HUMAN; POLI; RAD30 homolog B; 2.7.7.7; POLI_MOUSE; DNA polymerase iota; polymerase (DNA directed) iota; polymerase (DNA) iota
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

Storage	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	POLI
Synonyms	RAD30B
Function	Error-prone DNA polymerase specifically involved in DNA repair (PubMed:11013228, PubMed:11387224). Plays an important role in translesion synthesis, where the normal high-fidelity DNA polymerases cannot proceed and DNA synthesis stalls (PubMed:11013228, PubMed:11387224, PubMed:14630940, PubMed:15199127, PubMed:20388628). Favors Hoogsteen base-pairing in the active site (PubMed:15254543). Inserts the correct base with high-fidelity opposite an adenosine template (PubMed:15254543). Exhibits low fidelity and efficiency opposite a thymidine template, where it will preferentially insert guanosine (PubMed:11013228). May play a role in hypermutation of immunoglobulin genes (PubMed:12410315). Forms a Schiff base with 5'- deoxyribose phosphate at abasic sites, but may not have lyase activity (PubMed:11251121, PubMed:14630940).
Cellular Location	Nucleus. Note=Binding to ubiquitin mediates localization to replication forks after UV-induced DNA damage. {ECO:0000250|UniProtKB:Q6R3M4}
Tissue Location	Ubiquitous. Highly expressed in testis.

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