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

Anti-POLH Picoband Antibody

Catalog # ABO12499

Product Information

Application	WB
Primary Accession	Q9Y253
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for DNA polymerase eta(POLH) detection. Tested with WB in Human;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	5429
Other Names	DNA polymerase eta, 2.7.7.7, RAD30 homolog A, Xeroderma pigmentosum variant type protein, POLH, RAD30, RAD30A, XPV
Calculated MW	78413
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Rat
Subcellular Localization	Nucleus . Accumulates at replication forks after DNA damage.
Source	Eukaryota
Protein Name	DNA polymerase eta
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human POLH recombinant protein (Position: A157-R361). Human POLH shares 93.6% amino acid (aa) sequence identity with mouse POLH.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

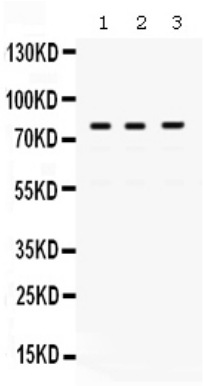
Name	POLH
Synonyms	RAD30, RAD30A, XPV
Function	DNA polymerase specifically involved in the DNA repair by translesion synthesis (TLS) (PubMed:10385124, PubMed:11743006, PubMed:16357261, PubMed:20388628, PubMed:24449906, PubMed:24553286, PubMed:38212351). Due to low processivity on both damaged and normal DNA, cooperates with the heterotetrameric (REV3L, REV7, POLD2 and POLD3) POLZ complex for complete bypass of DNA lesions. Inserts one or 2 nucleotide(s) opposite the lesion, the primer is further extended by the tetrameric POLZ complex. In the case of 1,2-intrastrand d(GpG)- cisplatin cross-link, inserts dCTP opposite the 3' guanine (PubMed:24449906). Particularly important for the repair of UV-induced pyrimidine dimers (PubMed:10385124, PubMed:11743006). Although inserts the correct base, may cause base transitions and transversions depending upon the context. May play a role in hypermutation at immunoglobulin genes (PubMed:11376341, PubMed:14734526). Forms a Schiff base with 5'-deoxyribose phosphate at abasic sites, but does not have any lyase activity, preventing the release of the 5'-deoxyribose phosphate (5'-dRP) residue. This covalent trapping of the enzyme by the 5'-dRP residue inhibits its DNA synthetic activity during base excision repair, thereby avoiding high incidence of mutagenesis (PubMed:14630940). Targets POLI to replication foci (PubMed:12606586).
Cellular Location	Nucleus. Note=Binding to ubiquitinated PCNA mediates colocalization to replication foci during DNA replication and persists at sites of stalled replication forks following UV irradiation (PubMed:12606586, PubMed:16357261, PubMed:24553286). After UV irradiation, recruited to DNA damage sites within 1 hour, to a maximum of about 80%; this recruitment may not be not restricted to cells active in DNA replication (PubMed:22801543). Colocalizes with TRAIP to nuclear foci (PubMed:24553286).

Background

DNA polymerase eta (Pol □), is a protein that in humans is encoded by the POLH gene. This gene encodes a member of the Y family of specialized DNA polymerases. It copies undamaged DNA with a lower fidelity than other DNA-directed polymerases. However, it accurately replicates UV-damaged DNA; when thymine dimers are present, this polymerase inserts the complementary nucleotides in the newly synthesized DNA, thereby bypassing the lesion and suppressing the mutagenic effect of UV-induced DNA damage. This polymerase is thought to be involved in hypermutation during immunoglobulin class switch recombination. Mutations in this gene result in XPV, a variant type of xeroderma pigmentosum. Several transcript variants encoding different isoforms have been found for this gene.

Images

Anti- POLH Picoband antibody, ABO12499, Western blottingAll lanes: Anti POLH (ABO12499) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: HELA Whole Cell Lysate at 40ugLane 3: SW620 Whole Cell Lysate at 40ugPredicted bind size: 78KDObserved bind size: 78KD



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