

DNA pol θ rabbit pAb antibody

Catalog No :	Source:	Concentration :	Mol.Wt. (Da):
A13661	Rabbit	1 mg/ml	197597

Applications	IHC,ELISA
Reactivity	Human
Dilution	IHC: 1:100 - 1:300. ELISA: 1:20000. Not yet tested in other applications.
Storage	-20°C/1 year
Specificity	DNA pol θ Polyclonal Antibody detects endogenous levels of DNA pol θ protein.
Source / Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Immunogen	The antiserum was produced against synthesized peptide derived from human POLQ. AA range:181-230
Uniprot No	O75417
Alternative names	POLQ; POLH; DNA polymerase theta; DNA polymerase eta
Form	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Clonality	Polyclonal
Isotype	IgG
Conjugation	
Background	<p>POLQ (Polymerase (DNA) Theta) is a Protein Coding gene. Among its related pathways are Platinum Pathway, Pharmacokinetics/Pharmacodynamics and DNA Double-Strand Break Repair. GO annotations related to this gene include nucleic acid binding and damaged DNA binding. An important paralog of this gene is SNRNP200. NA polymerase that promotes microhomology-mediated end-joining (MMEJ), an alternative non-homologous end-joining (NHEJ) machinery triggered in response to double-strand breaks in DNA (PubMed: 25642963, PubMed: 25643323). MMEJ is an error-prone repair pathway that produces deletions of sequences from the strand being repaired and promotes genomic rearrangements, such as telomere fusions, some of them leading to cellular transformation (PubMed: 25642963, PubMed: 25643323). POLQ acts as an inhibitor of homology-recombination repair (HR) pathway by limiting RAD51 accumulation at resected ends (PubMed: 25642963). POLQ-mediated MMEJ may be required to promote the survival of cells with a compromised HR repair pathway, thereby preventing genomic havoc by resolving unrepaired lesions (By similarity). The polymerase acts by binding directly the 2 ends of resected double-strand breaks, allowing microhomologous sequences in the overhangs to form base pairs. It then extends each strand from the base-paired region using the opposing overhang as a template. Requires partially resected DNA containing 2 to 6 base pairs of microhomology to perform MMEJ (PubMed: 25643323). The polymerase activity is highly promiscuous: unlike most polymerases, promotes extension of ssDNA and partial ssDNA (pssDNA) substrates (PubMed: 18503084, PubMed: 21050863, PubMed: 22135286). Also exhibits low-fidelity DNA synthesis, translesion synthesis and lyase activity, and it is implicated in interstrand-cross-link repair, base excision repair and DNA end-joining (PubMed: 14576298, PubMed: 18503084, PubMed: 19188258, PubMed: 24648516). Involved in somatic hypermutation of immunoglobulin genes, a process that requires the activity of DNA polymerases to ultimately introduce mutations at both A/T and C/G base pairs (By similarity).</p>
Other	POLQ, DNA polymerase theta

Product Images:**Application Key:**

WB-Western IP-Immunoprecipitation IHC-Immunohistochemistry CHIP-Chromatin Immunoprecipitation
IF-Immunofluorescence F-Flow Cytometry E-P-ELISA-Peptide

Species Cross-Reactivity Key:

H-Human M-Mouse R-Rat Hm-Hamster Mk-Monkey Vir-Virus Mi-Mink C-Chicken Dm-D. melanogaster
X-Xenopus Z-Zebrafish B-Bovine Dg-Dog Pg-Pig Sc-S. cerevisiae Ce-C. elegans Hr-Horse All-All
Species Expected

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