

Rabbit anti-Human DNA Polymerase alpha Polyclonal Antibody | anti-POLA1 antibody

DNA Polymerase alpha Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321896	Rabbit	Human	ELISA, Immunocytochemistry, Immunofluorescence, Western Blot

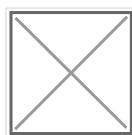
PRODUCT SYNONYMS

DNA Polymerase alpha; Polyclonal Antibody; DNA Polymerase alpha Antibody; DKFZp686K1672; DNA polymerase alpha 1 catalytic subunit; DNA polymerase alpha catalytic subunit; DNA polymerase alpha catalytic subunit p180; DNA polymerase alpha p180 subunit; DPOLA_HUMAN; OTTHUMP00000023089; OTTHUMP00000023090; P180; p180 subunit; POLA; POLA1; Polymerase (DNA directed); alpha 1; catalytic subunit; Polymerase (DNA-directed); alpha (70kD); anti-POLA1 antibody

PRODUCT SPECIFICATIONS

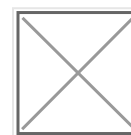
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	IgG
Specificity	DNA Polymerase alpha antibody detects endogenous levels of total DNA Polymerase alpha
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	1462
Applicable Applications for anti-POLA1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	A synthesized peptide derived from human DNA Polymerase alpha
Subcellular Location	Nucleus.
Predicted Cross Reactivity	Pig, Bovine, Horse
Similarity	Pig (91%), Bovine (80%), Horse (91%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

AAA321896 staining HepG2 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of DNA Polymerase alpha expression in 293 cells, The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-POLA1 antibody	Function: Plays an essential role in the initiation of DNA replication. During the S phase of the cell cycle, the DNA polymerase alpha complex (composed of a catalytic subunit POLA1/p180, a regulatory subunit POLA2/p70 and two primase subunits PRIM1/p49 and PRIM2/p58) is recruited to DNA at the replicative forks via direct interactions with MCM10 and WDHD1. The primase subunit of the polymerase alpha complex initiates DNA synthesis by oligomerising short RNA primers on both leading and lagging strands. These primers are initially extended by the polymerase alpha catalytic subunit and subsequently transferred to polymerase delta and polymerase epsilon for processive synthesis on the lagging and leading strand, respectively. The reason this transfer occurs is because the polymerase alpha has limited processivity and lacks intrinsic 3' exonuclease activity for proofreading error, and therefore is not well suited for replicating long complexes. In the cytosol, responsible for a substantial proportion of the physiological concentration of cytosolic RNA:DNA hybrids, which are necessary to prevent spontaneous activation of type I interferon responses (PubMed:27019227). Subunit Structure: The DNA polymerase alpha complex is composed of four subunits: the catalytic subunit POLA1, the regulatory subunit POLA2, and the small and the large primase subunits PRIM1 and PRIM2 respectively. Interacts with PARP1; this interaction functions as part of the control of replication fork progression. Interacts with MCM10 and WDHD1; these interactions recruit the polymerase alpha complex to the pre-replicative complex bound to DNA. Interacts with RPA1; this interaction stabilizes the replicative complex and reduces the misincorporation rate of DNA polymerase alpha by acting as a fidelity clamp. Interacts with SV40 Large T antigen; this interaction allows viral DNA replication. Interacts with herpes simplex virus 1 (HHV-1) replication origin-binding protein UL9. Post-translational Modifications: A 165 kDa form is probably produced by proteolytic cleavage at Lys-124. Similarity: The CysB motif binds 1 4Fe-4S cluster and is required for the formation of polymerase complexes. Belongs to the DNA polymerase type-B family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	106507301
NCBI GeneID	5422
NCBI Accession #	NP_058633.2
NCBI GenBank Nucleotide #	NM_016937.3
UniProt Accession #	P09884; Q86UQ7
Molecular Weight	Observed: 169 kDa Predicted: 166 kDa
NCBI Official Full Name	DNA polymerase alpha catalytic subunit isoform 2
NCBI Official Synonym Full Names	DNA polymerase alpha 1, catalytic subunit
NCBI Official Symbol	POLA1
NCBI Official Synonym Symbols	NSX; POLA; p180
NCBI Protein Information	DNA polymerase alpha catalytic subunit
UniProt Protein Name	DNA polymerase alpha catalytic subunit
UniProt Gene Name	POLA1
UniProt Synonym Gene Names	POLA

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.