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DNA Polymerase alpha 1 Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51435

Specification

DNA Polymerase alpha 1 Antibody - Product Information

Application	**WB**
Primary Accession	P09884
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**180 KDa**
Antigen Region	**81 - 140**

DNA Polymerase alpha 1 Antibody - Additional Information

Gene ID 5422

Other Names
DNA polymerase alpha catalytic subunit, DNA polymerase alpha catalytic subunit p180, POLA1, POLA

Target/Specificity
KLH conjugated synthetic peptide derived from human DNA Polymerase alpha 1

Dilution
WB~~ 1:1000

Format
0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

Storage
Store at -20 °C.Stable for 12 months from date of receipt

DNA Polymerase alpha 1 Antibody - Protein Information

Name POLA1

Synonyms POLA

Function
Catalytic subunit of the DNA polymerase alpha complex (also known as the alpha DNA polymerase-primase complex) which plays an essential role in the initiation of DNA synthesis. During the S phase of the cell cycle, the DNA polymerase alpha complex (composed of a catalytic subunit POLA1, a regulatory subunit POLA2 and two primase subunits PRIM1 and PRIM2) 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).

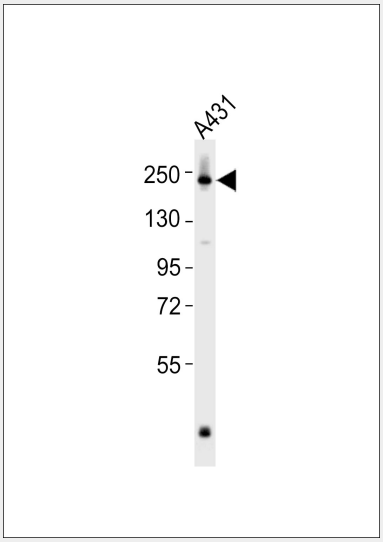
Cellular Location
Nucleus. Cytoplasm, cytosol. Note=In the cytosol, colocalizes with RNA:DNA hybrids with a speckled pattern

DNA Polymerase alpha 1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

DNA Polymerase alpha 1 Antibody - Images



Anti-DNA Polymerase alpha 1 Antibody at 1:1000 dilution + A431 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/10000 dilution Predicted band size : 166 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

DNA Polymerase alpha 1 Antibody - Background

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.

DNA Polymerase alpha 1 Antibody - References

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