

Product Specification Sheet

Human DNA Polymerase Delta, catalytic subunit (Pol D) Antibodies

Cat # DNP11-P	Human DNA Pol D Control peptide	SIZE: 100 ug
Cat # DNP11-S	Rabbit Anti-Human DNA Pol D antiserum # 1	SIZE: 100 ul

Reactive oxygen species (H₂O₂^{*}, OH^{*}, O₂, HOCL) generated during normal cellular activities or by ionizing radiation and by many oxidizing/alkylating agents can induce a wide variety of lesions in DNA ranging from oxidized bases (8-oxoguanine and thymine glycol), base loss and DNA strand breaks with modified ends such as 3'-phosphate and 3'-phosphoglycolate. Unrepaired damaged/modified DNA has been implicated in aging and cancer. In eukaryotes, there are five **DNA polymerases (alpha, beta, gamma, delta, and epsilon)**, which are responsible for different reactions in DNA synthesis. DNA polymerase δ (Pol δ) is the key polymerase that is involved in replication of chromosomal DNA. It has two enzymatic activities: DNA synthesis (polymerase) and an exolytic activity that degrades ssDNA in the 3'-5' direction. DNA Pol δ is tetrameric complex of 4 subunits: a large **catalytic subunit Pol3 ~p125 kDa** and three smaller subunits of p50, p68 and p12 kDa. Pol D requires accessory proteins, PCNA and RFC or activator 1 for enzymatic activity.

Source of Antigen and Antibodies

Antigen	DNA polymerase □ catalytic subunit (mouse 1105-aa, rat 1103-aa, human 1107-aa, chromosome 19q13.3-q13.4) is nuclear protein of ~125 kDa. A 21-aa peptide sequence (designated DNP11-P , control or blocking peptide) mapping near the N-terminus of human Pol D (1) was synthesized, coupled to KLH
Ab Host/type	Rabbit, Polyclonal antiserum # DNP11-S
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

00ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS, pH 7.5 ,
Reconstitute powder in PBS at 1 mg/ml

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

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Recommended Usage

ELISA (1:10-50K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: Not tested.

Specificity & Cross-reactivity

The DNP11-P peptide sequence is conserved in various species Pol δ: hamster, rat (100%), mouse (95%), bovine (90%), drosophila (80%), Soybean (76%), and yeast (61%). Antibody crossreactivity in various species is not experimentally verified. DNP11-P has no significant sequence homology with other DNA polymerases. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (detailed protocol is available at the web site).

General References: (1) Cullman GG et al (1993) Gene 134, 191-200; Goldsby RE et al (1998) Mamm. Genome 9, 92-93; Fox G et al (1997) J. Cancer Res. Clin. Oncol. 123, 659-668; Chang L-S. et al (199)Genomics 28, 411-419; Chung D-W. et al (1991) PNAS 88, 11197-11201; Kemper RR et al (1992) Genomics 14, 205-206; Syvaaja J et al (1990) PNAS 87, 6664-6668; Yang C.-L. et al (1990) Nucl. Acid. Res. 20, 735-745

*This product is for In vitro research use only.

Related material available from ADI

Antibodies to MGMT, hNTH, DNASE, APE etc are available.

Western Blot Recycling Kit (Strips blots in 5 minutes) and re-use the same blot with multiple antibodies

DNP11-S-P 71205A

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