

Product Specification Sheet

Human DNA Polymerase γ Antibodies

Cat # DNPG13-M, Mouse Monoclonal Anti-Human DNA Polymerase γ (POLG) antibody # 1 **SIZE:**100ug

Mitochondria produce cellular ATP through oxidative phosphorylation. Mitochondrial DNA encodes several proteins necessary for oxidative phosphorylation, whereas many other genes are nuclear. **DNA Pol γ (POLG)**, the only DNA polymerase present in mitochondria, has been implicated in base excision repair process. The catalytic subunit of POLG catalyzes the release of dRP (5' terminal deoxyribose phosphate) from incised apurinic/aprimidinic sites to produce a substrate for DNA ligase. POLG deficiency has been associated with mtDNA depletion and Alper's syndrome. Low selectivity of mtDNA polymerase is implicated as the cause of many side effects observed in the treatment of viral infections such as HIV.

Source of Antigen and Antibodies

Antigen	Purified Human recombinant DNA Pol γ (26-276 aa)
Ab Host/type	Balb/c mouse . Splenocytes were fused with myeloma cells. Resulting clone (DNPG13; IgG1), selected for reactivity with DNA Pol γ , was expanded into mice as ascites. Antibody has been purified by Protein A/G column chromatography
2-Ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage

Affinity pure IgG

100 ug/100ul solution lyophilized powder
 Buffer: 100 mM Tris, pH 7.5, 0.2% BSA 0.05% sodium azide
Reconstitute powder in 100 ul PBS

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.

Recommended Usage

Western Blotting: An initial concn. of 1-5 ug/ml is recommended for Western. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions. The antibody recognizes >140 kDa DNA Pol γ from HeLa and other cells and tissues.

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

Histochemistry & Immunofluorescence: Not tested. An initial concn. 2-20 ug/ml is recommended for IHC.

Specificity & Cross-reactivity

DNPG13-M crossreact with mouse POLG. No crossreactivity is seen with DNA Pol α , β or δ . Antibody cross-reactivity in various other species has not been studied.

General References:

Longley MJ et al (1998) Biochem. 37, 10529-10539;
 Muller-Hocker et al (1998) Virchows Arch. 433, 529-536;
 Davis AF et al (1996) Nucl. Acid Res. 24, 2753-2759;
 Longley MJ et al (1998) Proc. Natl. Acad. Sci. 95, 12244-12448;
 naviaux RK et al (1999) Ann Neurol. 45, 54-58

***This product is for In vitro research use only.**

Material Safety Data. Unless specified otherwise, the material contains negligible amounts of sodium azide (0.1%) as preservative. Appropriate care should be exercised when handling and disposing this material.

Related material available from ADI

Antibodies to MGMT, hNTH, Ape, mutY, OGG1, XRCC1, DNA Ligase, Polymerase, XPG, ORC1 etc are available.

Anti-Rabbit IgG-HRP Conjugate and ECL Reagents

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

DNPG13-M

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