

Product Specification Sheet

Rat DNA Polymerase β Antibodies

Cat # DNPB11-M,

Mouse Monoclonal Anti-Rat DNA polymerase β antibody # 1

SIZE: 100 ug

Reactive oxygen species ($H_2O_2^*$, OH^* , O_2 , $HOCl$) 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.

Mammalian **DNA polymerase beta**, a DNA repair polymerase, is constitutively expressed. DNA-alkylating agents such as N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) or methyl methanesulfonate up-regulates beta-pol level. DNA polymerase beta fills single nucleotide gaps in DNA produced by the base excision repair pathway of mammalian cells. DNA polymerase beta comprises an amino-terminal 8-kDa domain and a carboxy-terminal 31kDa domain. The N-terminal ssDNA binding domain has a deoxyribose phosphodiesterase activity while the C-terminal domain has a nucleotidyltransferase activity.

Source of Antigen and Antibodies

Antigen	Purified Rat DNA Pol β (~39 kDa)
Ab Host/type	Purified Rat DNA Pol β (~39 kDa) was used to immunize Balb/c mouse . Splenocytes were fused with Sp2/0 myeloma cells. Resulting clone (DNPB11), selected for reactivity with DNA Pol β , 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
 contains 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 concentration. 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 has detected ~39 kDa band from HeLa and other cells and tissues.

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

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

Others: This antibody does not inhibit the activity of the DNA Pol β .

Specificity & Cross-reactivity

DNPB11-M crossreact with mouse, human, Hamster and Frog. Antibody cross-reactivity in various other species has not been studied.

General References:

Srivastava, DK et al (1995) J. Biol. Chem.. 270, 16402-16408; Hussain I et al (1995) Nucl. Acid Res. 23, 1597-1603; Singhal RK et al (1995) J. Biol. Chem 270, 949-957; Chyan YJ et al (1994) Nucl. Acid Res. 22, 2719-2725,

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

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

DNPB11-M

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