Technical Data Sheet

Purified Mouse Anti-Human DNA Polymerase ε catalytic

Product Information

Material Number:	**611238**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	34/DNA Polymerase ε catalytic
Immunogen:	Human DNA Polymerase ε catalytic aa. 629-749
Isotype:	Mouse IgG2b
Reactivity:	QC Testing: Human
Target MW:	220 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Damaged or erroneous DNA may result from the effects of environmental factors or synthesis errors committed by DNA polymerases during replication. If unchecked, these errors might accumulate genetic damage such that the cell could no longer properly function. Thus, DNA repair processes involve mechanisms for the excision of damaged sequences and the resynthesis and ligation of the proper sequence. DNA polymerase ε functions in DNA replication and repair. It consists of a large catalytic subunit, reportedly ranging in size from 220 kD to 261 kD, and a 55 kDa small subunit that is thought to function as an adaptor between the catalytic subunit and accessory proteins such as DPB2, DPB3, and proliferating cell nuclear antigen (PCNA). The polymerase and proofreading exonuclease activities are located in the N-terminal portion of the catalytic subunit. Although the C-terminal portion contains a putative Zn2+ finger DNA-binding domain, the function of this region is not required for enzyme activity. The interaction of DNA Pol ε with PCNA promotes primer recognition and DNA synthesis. Thus, DNA Pol ε is essential for DNA replication and the maintenance of accurate DNA sequence, which ensures cellular function and viability.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.

Western blot analysis of DNA Polymerase ε catalytic on a HeLa cell lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the anti-human DNA Polymerase ε catalytic antibody.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

Application Notes

Application

Western blot	Routinely Tested
Fluorescence microscopy	Reported

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Kesti T, Flick K, Keranen S, Syvaoja JE, Wittenberg C. DNA polymerase epsilon catalytic domains are dispensable for DNA replication, DNA repair, and cell viability. *Mol Cell.* 1999; 3(5):679-685.(Biology)

Li Y, Asahara H, Patel VS, Zhou S, Linn S. Purification, cDNA cloning, and gene mapping of the small subunit of human DNA polymerase epsilon. *J Biol Chem.* 1997; 272(51):32337-32344.(Biology)

Maga G, Jonsson ZO, Stucki M, Spadari S, Hubscher U. Dual mode of interaction of DNA polymerase epsilon with proliferating cell nuclear antigen in primer binding and DNA synthesis. *J Mol Biol.* 1999; 285(1):259-267.(Biology)

Saitoh H, Pizzi MD, Wang J. Perturbation of SUMOlation enzyme Ubc9 by distinct domain within nucleoporin RanBP2/Nup358. *J Biol Chem.* 2002; 277(7):4755-4763.(Biology: Immunofluorescence)