Technical Data Sheet

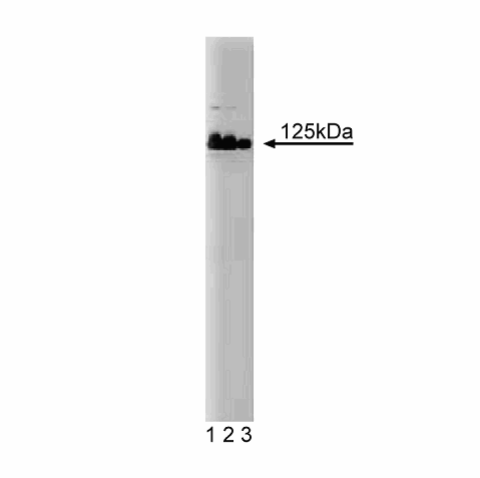
Purified Mouse Anti-DNA Polymerase δ

Product Information

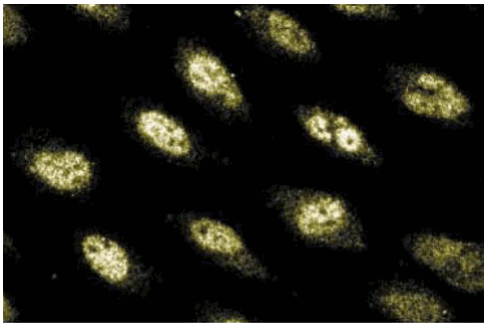
Material Number:	**610972**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	22/DNA Polymerase δ
Immunogen:	Human DNA Polymerase δ aa. 60-261
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Rat
Target MW:	125 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Errors in DNA sequence result from environmental factors or are committed by DNA polymerases during replication. If unchecked, these errors might accumulate genetic damage such that the cell could no longer function. Thus, DNA repair processes involve mechanisms for the excision of damaged sequences and the resynthesis and ligation of the proper sequence. In mammalian cells, this proofreading function rests with DNA polymerase (pol) δ, a heterodimer of a 50kDa subunit, which stimulates pol δ activity in the presence of PCNA (proliferating cell nuclear antigen) and a 125kDa catalytic subunit. The catalytic subunit has 3' to 5' exonuclease activity which distinguishes pol δ from pol α and pol β. Pol δ is also central to DNA replication where it functions in leading strand synthesis at the replication fork. The catalytic subunit is phosphorylated by G1 cyclin-dependent kinase-cyclin complexes and, *via* its N-terminal 249 amino acids, interacts with cdk2. However, phosphorylation has little or no effect on the activity of pol δ. Thus, DNA polymerase ä is essential for DNA replication and is unique in its ability to replace damaged sequences through the process of DNA excision repair.



Western blot analysis of DNA Polymerase δ on Jurkat lysate. *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of Polymerase δ.*



Immunofluorescence staining of Human Endothelial cells.

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
Immunofluorescence	Tested During Development

BD Biosciences

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal
611451	Jurkat Cell Lysate	500 µg	(none)

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

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Yang CL, Chang LS, Zhang P. Molecular cloning of the cDNA for the catalytic subunit of human DNA polymerase delta. *Nucleic Acids Res.* 1992; 20(4):735-745. (Biology)

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