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POLK Antibody (monoclonal) (M01)

Mouse monoclonal antibody raised against a full length recombinant POLK.
Catalog # AT3371a

Product Information

Application	WB, IHC, IF, E
Primary Accession	Q9UBT6
Other Accession	BC050718
Reactivity	Human
Host	mouse
Clonality	monoclonal
Isotype	IgG1 Kappa
Clone Names	6F2
Calculated MW	98809

Additional Information

Gene ID	51426
Other Names	DNA polymerase kappa, DINB protein, DINP, POLK, DINB1
Target/Specificity	POLK (AAH50718, 1 a.a. ~ 472 a.a) full-length recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.
Dilution	WB~~1:500~1000 IHC~~1:100~500 IF~~1:50~200 E~~N/A
Format	Clear, colorless solution in phosphate buffered saline, pH 7.2 .
Storage	Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.
Precautions	POLK Antibody (monoclonal) (M01) is for research use only and not for use in diagnostic or therapeutic procedures.

Background

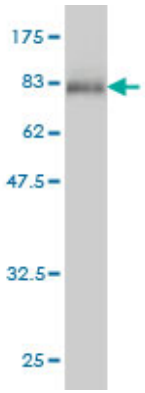
External and internal DNA-damaging agents continually threaten the integrity of genetic material in cells. Although a variety of repair mechanisms exist to remove the resulting lesions, some lesions escape repair and block the replication machinery. Members of the Y family of DNA polymerases, such as POLK, permit the continuity of the replication fork by allowing replication through such DNA lesions. Each Y family polymerase has a unique DNA-damage bypass and fidelity profile. POLK is specialized for the extension step of lesion bypass (summary by Lone et al., 2007 [PubMed 17317631]).

References

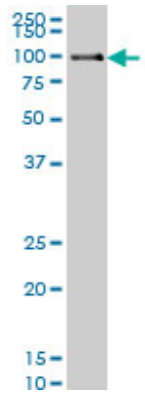
Comprehensive screen of genetic variation in DNA repair pathway genes and postmenopausal breast cancer

risk. Monsees GM, et al. Breast Cancer Res Treat, 2010 May 23. PMID 20496165.Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Rose JE, et al. Mol Med, 2010 Jul-Aug. PMID 20379614.Critical amino acids in human DNA polymerases eta and kappa involved in erroneous incorporation of oxidized nucleotides. Katafuchi A, et al. Nucleic Acids Res, 2010 Jan. PMID 19939936.Translesional DNA synthesis through a C8-guanyl adduct of 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP) in Vitro: REV1 inserts dC opposite the lesion, and DNA polymerase kappa potentially catalyzes extension reaction from the 3'-dC terminus. Fukuda H, et al. J Biol Chem, 2009 Sep 18. PMID 19628463.Structural and functional elucidation of the mechanism promoting error-prone synthesis by human DNA polymerase kappa opposite the 7,8-dihydro-8-oxo-2'-deoxyguanosine adduct. Irimia A, et al. J Biol Chem, 2009 Aug 14. PMID 19542228.

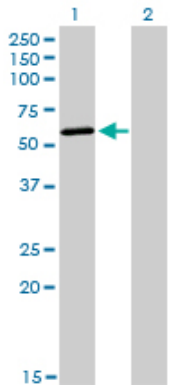
Images



Antibody Reactive Against Recombinant Protein.Western Blot detection against Immunogen (77.66 KDa) .



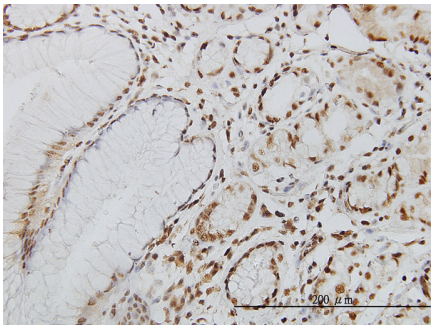
POLK monoclonal antibody (M01), clone 6F2 Western Blot analysis of POLK expression in Hela S3 NE ((Cat # AT3371a)

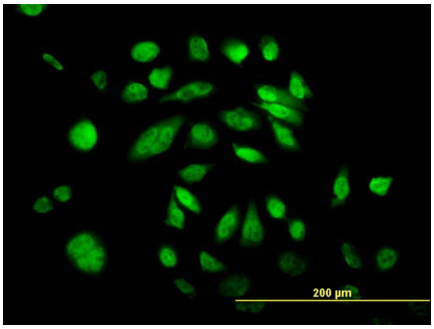


Western Blot analysis of POLK expression in transfected 293T cell line by POLK monoclonal antibody (M01), clone 6F2.

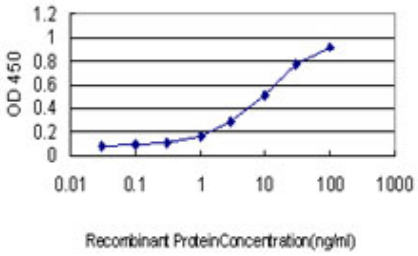
Lane 1: POLK transfected lysate(54.1 KDa).
Lane 2: Non-transfected lysate.

Immunoperoxidase of monoclonal antibody to POLK on formalin-fixed paraffin-embedded human stomach. [antibody concentration 3 ug/ml]

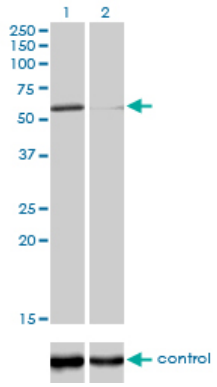




Immunofluorescence of monoclonal antibody to POLK on HeLa cell. [antibody concentration 10 ug/ml]



Detection limit for recombinant GST tagged POLK is approximately 0.3ng/ml as a capture antibody.



Western blot analysis of POLK over-expressed 293 cell line, cotransfected with POLK Validated Chimera RNAi ((Cat # AT3371a)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.