10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DNA Polymerase β Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50642

Product Information

Application	WB, IHC
Primary Accession	P06746
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	38178

Additional Information

Gene ID	5423
Other Names	DNA polymerase beta, 4299-, POLB
Dilution	WB~~1:1000 IHC~~1:50-1:100
Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.
Storage Conditions	-20℃

Protein Information

Name	POLB
Function	Repair polymerase that plays a key role in base-excision repair (PubMed:10556592, PubMed:9207062, PubMed:9572863). During this process, the damaged base is excised by specific DNA glycosylases, the DNA backbone is nicked at the abasic site by an apurinic/apyrimidic (AP) endonuclease, and POLB removes 5'-deoxyribose-phosphate from the preincised AP site acting as a 5'-deoxyribose-phosphate lyase (5'-dRP lyase); through its DNA polymerase activity, it adds one nucleotide to the 3' end of the arising single-nucleotide gap (PubMed:10556592, PubMed:17526740, PubMed:9556598, PubMed:9572863, PubMed:9614142). Conducts 'gap-filling' DNA synthesis in a stepwise distributive fashion rather than in a processive fashion as for other DNA polymerases. It is also able to cleave sugar-phosphate bonds 3' to an intact AP site, acting as an AP lyase (PubMed:9614142).
Cellular Location	Nucleus. Cytoplasm. Note=Cytoplasmic in normal conditions. Translocates to the nucleus following DNA damage

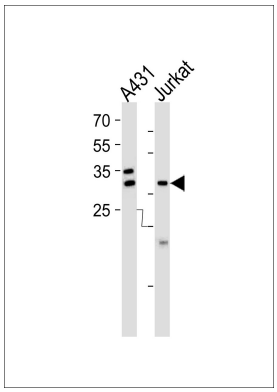
Background

Repair polymerase that plays a key role in base-excision repair. Has 5'-deoxyribose-5-phosphate lyase (dRP lyase) activity that removes the 5' sugar phosphate and also acts as a DNA polymerase that adds one nucleotide to the 3' end of the arising single-nucleotide gap. Conducts 'gap-filling' DNA synthesis in a stepwise distributive fashion rather than in a processive fashion as for other DNA polymerases.

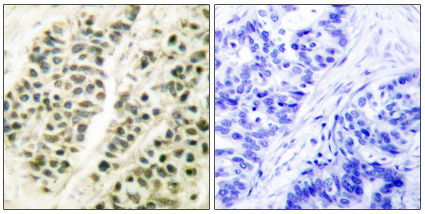
References

Patterson T.A.,et al.Protein Expr. Purif. 18:100-110(2000).
Dobashi Y.,et al.Hum. Genet. 95:389-390(1995).
Chyan Y.-J.,et al.Nucleic Acids Res. 22:2719-2725(1994).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Halleck A.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.

Images



Western blot analysis of lysates from A431,Jurkat cell line (from left to right),using DNA Polymerase β Antibody(AP50642). AP50642 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody.Lysates at 35ug per lane.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using DNA Polymerase β antibody .

Citations

- Silencing DNA Polymerase β Induces Aneuploidy as a Biomarker of Poor Prognosis in Oral Squamous Cell Cancer
- Progression Risk Score Estimation Based on Immunostaining Data in Oral Cancer Using Unsupervised Hierarchical Clustering Analysis: A Retrospective Study in Taiwan