Anti-DNA polymerase κ (human), mouse monoclonal (# 13)

Product code	70-073
Size	50 µg
Storage	-20℃
Concentration	1.0 mg/ml
Buffer	PBS- with 50% glycerol
Purity	Purified IgG fraction with protein A from hybridoma cell culture medium.
Immunogen	Recombinant human DNA polymerase kappa (1-560aa) with His6-tag at C-terminal (BioAcademia10-105)
Isotype	Mouse IgG1κ
Reactivity	human and rat. Expected to react with mouse from the sequence.
Special notes	N/A
Application	1.Western blotting (1 µg/mL) 2.Immunoprecipitation (1~5 µg/mL) 3.ELISA (assay dependent)
Background	Mammalian DNA polymerase κ, a member of the UmuC/DinB nucleotidyl transferase superfamily, has been implicated in spontaneous mutagenesis (1). Human DNA polymerase κ copies undamaged DNA with average single-base substitution and deletion error rates of 7 x 10PP-3PP and 2 x 10PP-3PP, respectively. These error rates are high when compared to those of most other DNA polymerases (2). DNA polymerase κ has important role in the mutagenic bypass of certain types of DNA lesions (3).Expression of DNA polymerase kappa is much higher in testis than in other tissues and the shorter transcript due to alternative splicing is major form.
Data Link	UniProKB Q9UBT6 (POLK_HUMAN)

Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.

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Data Images: 70-073 Anti-DNA polymerase κ (human), mouse monoclonal (# 13)

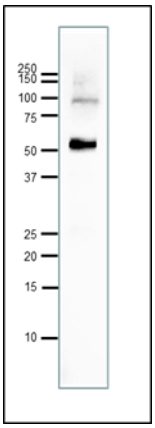

Fig.1. Western blot of human testis tissue lysate

10 µg of human testis tissue lysate (221 HT-401, Funakoshi) was run on SDS-PAGE (10% gel).
Anti-DNA polymerase kappa antibody was used at 1µg/ml.
Second antibody (goat anti-mouse IgG antibody, HRP-conjugated, ab205719) was used at 1/5,000 dilution.
The upper band corresponds to the full-size product of 99 kDa and the main band corresponding to ~50 kDa is likely the product of testis specific alternative splicing

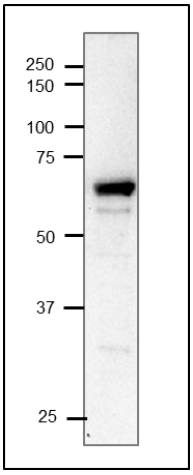

Fig.2 Western blot of recombinant DNA polymerase kappa (BioAcademia 10-105)

1 µg of recombinant human DNA polymerase kappa (65 kda)was run on SDS-PAGE (10 % gel).
Anti-DNA polymerase kappa antibody was used at 1µg/ml.
Second antibody (goat anti-rmouse IgG antibody, HRP-conjugated, ab205719) was used at 1/5,000 dilution.

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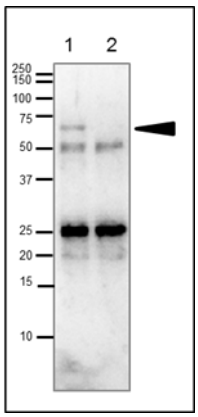

Fig.3 Immunoprecipitation of recombinant DNA polymerase kappa (BioAcademia10-105)

10 μg of recombinant DNA polymerase kappa was immune-precipitated with 10μg of anti-DNA polymerase kappa antibody and the precipitate was immune-blotted with anti-DNA polymerase kappa antibody.

Lane 1 : recombinant DNA polymerase kappa

Lane 2 : mock

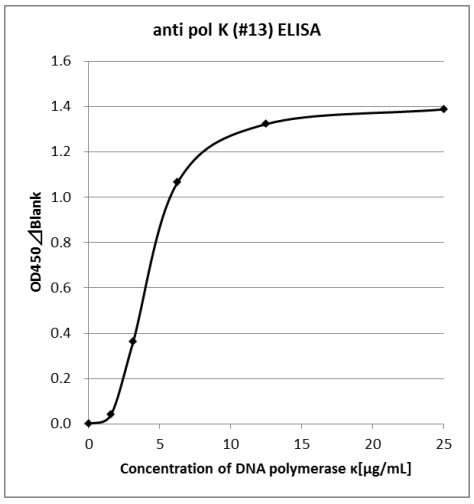

Fig.4. Titration of protein of polymerase kappa by indirect ELISA using monoclonal antibody

The indicated amounts of recombinant DNA polymerase kappa was coated onto the wells of the ELISA plate. After blocking with 1% BSA, the 2 μg/ml of monoclonal antibody was added to the each well. HRP-conjugate goat anti-mouse IgG (100μl, x10,000 dilution) was added. As substrate, TMBZ was used. Optical density (OD) measured at 450nm.

Reference This product has been used for the following reference.

1. Ohashi E *et al.* (2000) Fidelity and processivity of DNA synthesis by DNA polymerase kappa, the product of the human *DINB1* gene. *J Biol Chem* 275: 39678-39684 (2000) PMID: 11006276
2. Ohashi E *et al.* (2000) Error-prone bypass of certain DNA lesions by the human DNA polymerase

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kappa" *Genes Dev* 14: 1589-1594 (2000) PMID:10887153 .
3. Valasco-Miguel S et al. (2003) Constitutive and regulated expression of the mouseDinb(Polκ)gene encoding DNA polymerase kappa. *DNA Repair* 2:91-106. PMID: 12509270 (Alternative splicing)
4. Jałoszyński P. *et al.* (2005) Error-prone and inefficient replication across 8-hydroxyguanine (8-oxoguanine) in human and mouse ras gene fragments by DNA polymerase kappa. *Genes Cells.* 10:543-50. PMID: 15938713

Related Products:

10-105 DNA polymerase kappa (human)

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