



Rabbit Anti-phospho-DNA PKcs (Thr2609) antibody

SL3735R

Product Name:	phospho-DNA PKcs (Thr2609)
Chinese Name:	磷酸化DNA依赖性蛋白激酶抗体
Alias:	DNA PKcs(phospho-Thr2609); PRKDC(phospho T2609); DNA PKcs (phospho T2609); p-DNA PKcs (phospho T2609); DNA-dependent protein kinase catalytic subunit; DNA-PK catalytic subunit; DNA-PKcs; DNA PKcs; DNPK1; p460; PRKDC; HYRC; HYRC1; Variant; DNAPK; DNAPK catalytic subunit; p350; PRKDC; Protein Kinase DNA Activated Catalytic Polypeptide; XRCC 7; XRCC7; PRKDC HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800ICC=1:100-500IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	454kDa
Cellular localization:	The nucleus
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated Synthesised phosphopeptide derived from human PRKDC around the phosphorylation site of Thr2609:E(p-T)QA
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

PubMed:[PubMed](#)

This gene encodes the catalytic subunit of the DNA-dependent protein kinase (DNA-PK). It functions with the Ku70/Ku80 heterodimer protein in DNA double strand break repair and recombination. The protein encoded is a member of the PI3/PI4-kinase family.[provided by RefSeq, Jul 2010]

Function:

Serine/threonine-protein kinase that acts as a molecular sensor for DNA damage. Involved in DNA nonhomologous end joining (NHEJ) required for double-strand break (DSB) repair and V(D)J recombination. Must be bound to DNA to express its catalytic properties. Promotes processing of hairpin DNA structures in V(D)J recombination by activation of the hairpin endonuclease artemis DCLRE1C). The assembly of the DNA-PK complex at DNA ends is also required for the NHEJ ligation step. Required to protect and align broken ends of DNA. May also act as a scaffold protein to aid the localization of DNA repair proteins to the site of damage. Found at the ends of chromosomes, suggesting a further role in the maintenance of telomeric stability and the prevention of chromosomal end fusion. Also involved in modulation of transcription. Recognizes the substrate consensus sequence [ST]-Q. Phosphorylates 'Ser-139' of histone variant H2AX/H2AFX, thereby regulating DNA damage response mechanism. Phosphorylates DCLRE1C, c-Abl/ABL1, histone H1, HSPCA, c-jun/JUN, p53/TP53, PARP1, POU2F1, DHX9, SRF, XRCC1, XRCC1, XRCC4, XRCC5, XRCC6, WRN, MYC and RFA2. Can phosphorylate C1D not only in the presence of linear DNA but also in the presence of supercoiled DNA. Ability to phosphorylate p53/TP53 in the presence of supercoiled DNA is dependent on C1D.

Product Detail:**Subunit:**

DNA-PK is a heterotrimer of PRKDC and the Ku p70-p86 (XRCC6-XRCC5) dimer. Formation of this complex may be promoted by interaction with ILF3. Associates with the DNA-bound Ku heterodimer, but it can also bind to and be activated by free DNA. Interacts with DNA-PKcs-interacting protein (KIP) with the region upstream the kinase domain. PRKDC alone also interacts with and phosphorylates DCLRE1C, thereby activating the latent endonuclease activity of this protein. Interacts with C1D. Interacts with TTI1 and TELO2.

Subcellular Location:

Nucleus.

Post-translational modifications:

Phosphorylated upon DNA damage, probably by ATM or ATR. Autophosphorylated on Thr-2609, Thr-2638 and Thr-2647. Thr-2609 is a DNA damage-inducible phosphorylation site (inducible with ionizing radiation, IR). Autophosphorylation induces a conformational change that leads to remodeling of the DNA-PK complex, requisite for efficient end processing and DNA repair. S-nitrosylated by GAPDH.

Similarity:

Belongs to the PI3/PI4-kinase family.
Contains 1 FAT domain.
Contains 1 FATC domain.
Contains 2 HEAT repeats.
Contains 1 PI3K/PI4K domain.
Contains 3 TPR repeats.

SWISS:
P78527

Gene ID:
5591

Database links:

[Entrez Gene: 5591](#)Human

[Entrez Gene: 19090](#)Mouse

[Entrez Gene: 360748](#)Rat

[Olim: 600899](#)Human

[SwissProt: P78527](#)Human

[SwissProt: P97313](#)Mouse

[Unigene: 491682](#)Human

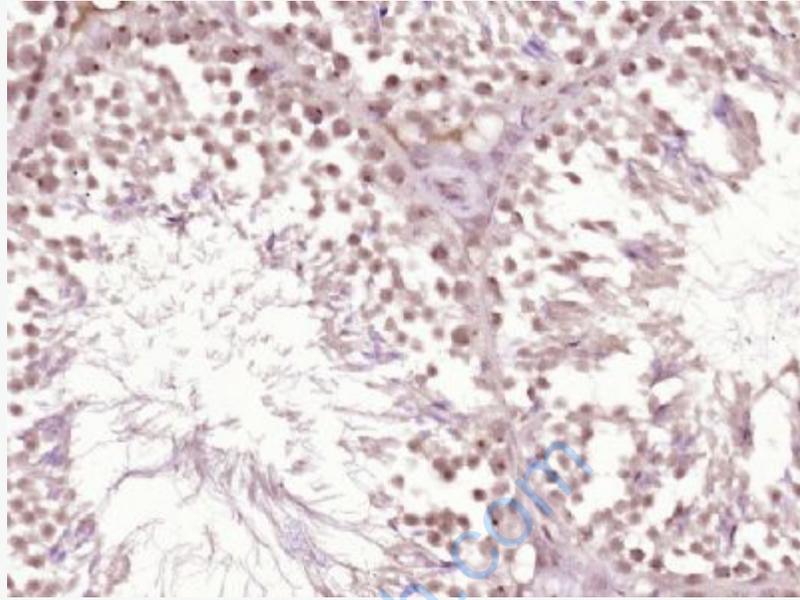
[Unigene: 71](#)Mouse

Important Note:

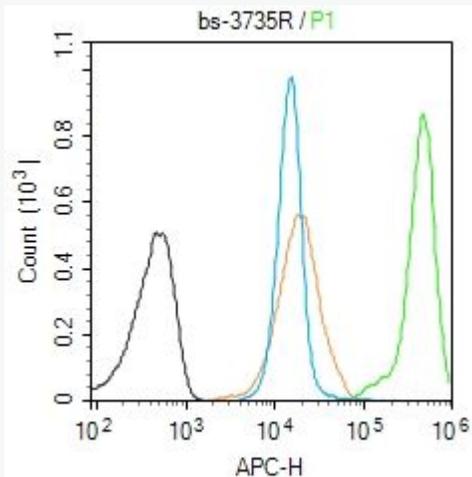
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DNA依赖性蛋白激酶(DNA PKcs)

是哺乳动物细胞DNA损伤修复的关键酶,是哺乳类细胞蛋白质丝/苏氨酸激酶, 位于
The nucleus.



Paraformaldehyde-fixed, paraffin embedded (Mouse testis); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (phospho-DNA PKcs (Thr2609)) Polyclonal Antibody, Unconjugated (SL3735R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Picture:

Blank control (Black line):Molt4 (Black).

Primary Antibody (green line): Rabbit Anti-phospho-DNA PKcs (Thr2609) antibody (SL3735R)

Dilution: $1\mu\text{g} / 10^6$ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-AF647

Dilution: $1\mu\text{g} / \text{test}$.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.