

Rabbit anti-Human, Mouse DNA PK Polyclonal Antibody | anti-PRKDC antibody

DNA PK Antibody

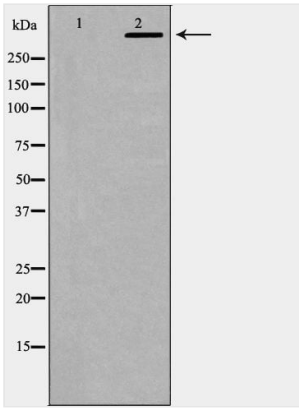
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321991	Rabbit	Human, Mouse	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

DNA PK; Polyclonal Antibody; DNA PK Antibody; DNA dependent protein kinase catalytic subunit; DNA PK catalytic subunit; DNA-dependent protein kinase catalytic subunit; DNA-PK catalytic subunit; DNA-PKcs; DNAPK; DNAPK catalytic subunit; DNPK 1; DNPK1; Hyper radiosensitivity of murine scid mutation; complementing 1; Hyperradiosensitivity complementing 1; mouse; homolog of 1; HYRC 1; HYRC; HYRC1; IMD26; p350; p460; PKRDC; PRKDC; PRKDC_HUMAN; Protein Kinase DNA Activated Catalytic Polypeptide; XRCC 7; XRCC7; anti-PRKDC antibody

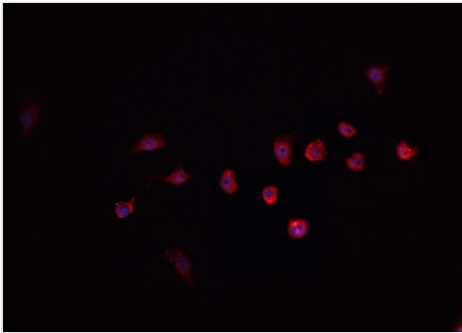
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Isotype	IgG
Specificity	DNA PK antibody detects endogenous levels of total DNA PK
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	4097
Applicable Applications for anti-PRKDC antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human DNA PK
Subcellular Location	Nucleus.
Predicted Cross Reactivity	Pig, Bovine, Sheep
Similarity	Pig (92%), Bovine (92%), Sheep (85%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



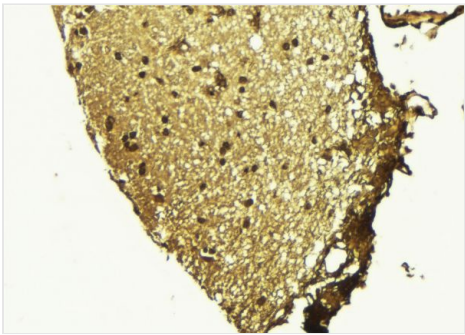
WB (Western Blot)

Western blot analysis of DNA PK expression in K562 cells. The lane on the left is treated with the antigen-specific peptide.



IF (Immunofluorescence)

AAA321991 staining HeLa cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemistry)

AAA321991 at 1/100 staining Mouse brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-PRKDC antibody	Function: Serine/threonine-protein kinase that acts as a molecular sensor for DNA damage. Involved in DNA non-homologous 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. Contributes to the determination of the circadian period length by antagonizing phosphorylation of CRY1 'Ser-588' and increasing CRY1 protein stability, most likely through an indirect mechanism. Interacts with CRY1 and CRY2; negatively regulates CRY1 phosphorylation. Plays a role in the regulation of DNA virus-mediated innate immune response by assembling into the HDP-RNP complex, a complex that serves as a platform for IRF3 phosphorylation and subsequent innate immune response activation through the cGAS-STING pathway. Subunit Structure: DNA-PK is a heterotrimer of PRKDC and the Ku p70/YRCC6-p86/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. The DNA-PK heterotrimer associates with the LIG4-XRCC4 complex to form the core of the non-homologous end joining (NHEJ) complex. Additional components of the NHEJ complex include NHEJ1/XLF and PAXX. 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 TEO2. Interacts with CIB1. Interacts with SETX (PubMed:23149945). Interacts with NR4A3; the DNA-dependent protein kinase complex DNA-PK phosphorylates and activates NR4A3 and prevents NR4A3 ubiquitination and degradation (PubMed:25852083). Interacts with BRAT1. Part of the HDP-RNP complex composed of at least HEXIM1, PRKDC, XRCC5, XRCC6, paraspeckle proteins (SFPQ, NONO, PSPC1, RBM14, and MATR3) and NEAT1 RNA. Post-translational Modifications: Autophosphorylated on Ser-2056, Thr-2609, Thr-2638 and Thr-2647. Ser-2056 and Thr-2609 are DNA damage-inducible phosphorylation sites (inducible with ionizing radiation, IR) dephosphorylated by PPP5C. 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. Polyubiquitinated by RNF144A, leading to proteasomal degradation. Similarity: Belongs to the PI3/PI4-kinase family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	126032350
NCBI GeneID	5591
NCBI Accession #	NP_001075109.1
NCBI GenBank Nucleotide #	NM_001081640.1
UniProt Accession #	P78527; P78528; Q13327; Q13337; Q14175; Q59H99; Q7Z611; Q96SE6; Q9UME3
Molecular Weight	Observed: 469 kDa Predicted: 470 kDa
NCBI Official Full Name	DNA-dependent protein kinase catalytic subunit isoform 2
NCBI Official Synonym Full Names	protein kinase, DNA-activated, catalytic subunit
NCBI Official Symbol	PRKDC
NCBI Official Synonym Symbols	HYRC; p350; DNAPK; DNPk1; HYRC1; IMD26; XRCC7; DNAPKc; DNA-PKC; DNA-PKcs
NCBI Protein Information	DNA-dependent protein kinase catalytic subunit
UniProt Protein Name	DNA-dependent protein kinase catalytic subunit
UniProt Gene Name	PRKDC

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/dna-pk-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/321991>