

产品名称: DNA-PKcs (16N19) Rabbit Monoclonal Antibody
产品货号: AMRe10074



产品概述 (Summary)

产品名称 (Production Name)	DNA-PKcs (16N19) Rabbit Monoclonal Antibody
描述 (Description)	Recombinant rabbit monoclonal antibody
宿主 (Host)	Rabbit
应用 (Application)	WB,IHC,ICC/IF
种属反应性 (Reactivity)	Human,Mouse,Rat

产品性能 (Performance)

偶联物 (Conjugation)	Unconjugated
修饰 (Modification)	Unmodified
同种型 (Isotype)	IgG
克隆 (Clonality)	Monoclonal
形式 (Form)	Liquid
存放说明 (Storage)	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
储存溶液 (Buffer)	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.
纯化方式 (Purification)	Affinity purification

免疫原信息 (Immunogen)

基因名 (Gene Name)	PRKDC
别名 (Alternative Names)	DNA-PKcs; DNA-dependent protein kinase catalytic subunit; DNPk1; EC 2.7.11.1; P460; PRKD; PRKDC; XRCC7, kinase DNA PK; DNA PKcs;
基因 ID (Gene ID)	5591.0
蛋白 ID (SwissProt ID)	P78527.

产品应用 (Application)

稀释比 (Dilution Ratio)	WB 1:1000-1:5000,IHC 1:50-1:100,ICC/IF 1:100-1:200
蛋白分子量 (Molecular Weight)	469kDa

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研究背景 (Background)

DNA-dependent protein kinase (DNA-PK) is an important factor in the repair of double-stranded breaks in DNA. Cells lacking DNA-PK or in which DNA-PK is inhibited fail to show proper nonhomologous end-joining (NHEJ). DNA-PK is composed of two DNA-binding subunits (Ku70 and Ku86) and one 450 kDa catalytic subunit (DNA-PKcs). It is thought that a heterodimer of Ku70 and Ku86 binds to double-stranded DNA broken ends before DNA-PKcs binds and is activated. Serine/threonine-protein kinase that acts as a molecular sensor for DNA damage (PubMed:11955432, PubMed:12649176, PubMed:14734805, PubMed:33854234). Involved in DNA non-homologous end joining (NHEJ) required for double-strand break (DSB) repair and V(D)J recombination (PubMed:11955432, PubMed:12649176, PubMed:14734805, PubMed:33854234). Must be bound to DNA to express its catalytic properties (PubMed:11955432). Promotes processing of hairpin DNA structures in V(D)J recombination by activation of the hairpin endonuclease artemis (DCLRE1C) (PubMed:11955432). Recruited by XRCC5 and XRCC6 to DNA ends and is required to (1) protect and align broken ends of DNA, thereby preventing their degradation, (2) and sequester the DSB for repair by NHEJ (PubMed:15574326, PubMed:11955432, PubMed:12649176, PubMed:14734805, PubMed:33854234). Act as a scaffold protein to aid the localization of DNA repair proteins to the site of damage (PubMed:15574326, PubMed:11955432, PubMed:12649176, PubMed:14734805). The assembly of the DNA-PK complex at DNA ends is also required for the NHEJ ligation step (PubMed:15574326, PubMed:11955432, PubMed:12649176, PubMed:14734805). Found at the ends of chromosomes, suggesting a further role in the maintenance of telomeric stability and the prevention of chromosomal end fusion (By similarity). Also involved in modulation of transcription (PubMed:15574326, PubMed:15574326, PubMed:15574326).

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[11955432](http://www.uniprot.org/citations/11955432) PubMed: [12649176](http://www.uniprot.org/citations/12649176) PubMed: [14734805](http://www.uniprot.org/citations/14734805)). As part of the DNA-PK complex, involved in the early steps of ribosome assembly by promoting the processing of precursor rRNA into mature 18S rRNA in the small-subunit processome (PubMed: [32103174](http://www.uniprot.org/citations/32103174)). Binding to U3 small nucleolar RNA, recruits PRKDC and XRCC5/Ku86 to the small-subunit processome (PubMed: [32103174](http://www.uniprot.org/citations/32103174)). Recognizes the substrate consensus sequence [ST]-Q (PubMed: [15574326](http://www.uniprot.org/citations/15574326)), PubMed: [11955432](http://www.uniprot.org/citations/11955432), PubMed: [12649176](http://www.uniprot.org/citations/12649176), PubMed: [14734805](http://www.uniprot.org/citations/14734805)). Phosphorylates 'Ser-139' of histone variant H2AX, thereby regulating DNA damage response mechanism (PubMed: [14627815](http://www.uniprot.org/citations/14627815)), PubMed: [16046194](http://www.uniprot.org/citations/16046194)). Phosphorylates DCLRE1C, c-Abl/ABL1, histone H1, HSPCA, c-jun/JUN, p53/TP53, PARP1, POU2F1, DHX9, FH, SRF, NHEJ1/XLF, XRCC1, XRCC4, XRCC5, XRCC6, WRN, MYC and RFA2 (PubMed: [2507541](http://www.uniprot.org/citations/2507541), PubMed: [2247066](http://www.uniprot.org/citations/2247066), PubMed: [1597196](http://www.uniprot.org/citations/1597196), PubMed: [8407951](http://www.uniprot.org/citations/8407951), PubMed: [8464713](http://www.uniprot.org/citations/8464713), PubMed: [9362500](http://www.uniprot.org/citations/9362500), PubMed: [9139719](http://www.uniprot.org/citations/9139719), PubMed: [10026262](http://www.uniprot.org/citations/10026262), PubMed: [10467406](http://www.uniprot.org/citations/10467406), PubMed: [12509254](http://www.uniprot.org/citations/12509254), PubMed: [11889123](http://www.uniprot.org/citations/11889123), PubMed: [14612514](http://www.uniprot.org/citations/14612514), PubMed: [14599745](http://www.uniprot.org/citations/14599745), PubMed: [15177042](http://www.uniprot.org/citations/15177042), PubMed: [18644470](http://www.uniprot.org/citations/18644470), PubMed: [26666690](http://www.uniprot.org/citations/26666690), PubMed: [30247612](http://www.uniprot.org/citations/30247612), PubMed: [14704337](http://www.uniprot.org/citations/14704337), PubMed: [16397295](http://www.uniprot.org/citations/16397295), PubMed: [26237645](http://www.uniprot.org/citations/26237645), PubMed: [28712728](http://www.uniprot.org/citations/28712728)

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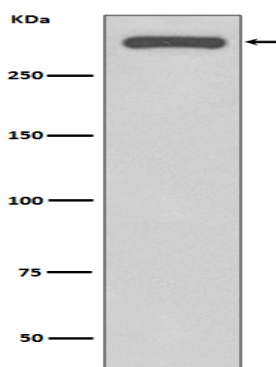


target="_blank">28712728). Can phosphorylate C1D not only in the presence of linear DNA but also in the presence of supercoiled DNA (PubMed:9679063). Ability to phosphorylate p53/TP53 in the presence of supercoiled DNA is dependent on C1D (PubMed:9363941). Contributes to the determination of the circadian period length by antagonizing phosphorylation of CRY1 'Ser- 588' and increasing CRY1 protein stability, most likely through an indirect mechanism (By similarity). 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 (PubMed:28712728).

研究领域 (Research Area)

Epigenetics and Nuclear Signaling

图片 (Image Data)



Western blot analysis of DNA-PKcs expression in HeLa cell lysate.

注意事项 (Note)

For research use only .