



Anti - PRKDC(DNA-dependent protein kinase catalytic subunit) phospho Polyclonal Antibody

Category: Phospho-Polyclonal Antibody

Catalog#: Phospho-AB1F067(Phospho Site: 2056 S)

Antigen Synonym : HYRC, HYRC1, DNA-PKcs, DNPK1

Species Reactivity: Human, mouse

Immunogen/Specificity:

Polyclonal antibody produced in rabbits immunizing with a synthetic peptide corresponding to middle residues of human PRKDC(DNA-dependent protein kinase catalytic subunit)

Description: PRKDC(DNA-dependent protein kinase catalytic subunit) is a 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. PRKDC must be bound to DNA to express its catalytic properties. PRKDC 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. PRKDC is required to protect and align broken ends of DNA. PRKDC may also act as a scaffold protein to aid the localization of DNA repair proteins to the site of damage. PRKDC found at the ends of chromosomes, suggesting a further role in the maintenance of telomeric stability and the prevention of chromosomal end fusion. PRKDC also involved in modulation of transcription. PRKDC recognizes the substrate consensus sequence [ST]-Q. PRKDC phosphorylates 'Ser-139' of histone variant H2AX/H2AFX, thereby regulating DNA damage response mechanism. PRKDC phosphorylates DCLRE1C, c-Abl/ABL1, histone H1, HSPCA, c-jun/JUN, p53/TP53, PARP1, POU2F1, DHX9, SRF, XRCC1, XRCC1, XRCC4, XRCC5, XRCC6, WRN, c-myc/MYC and RFA2. PRKDC can phosphorylate C1D not only in the presence of linear DNA but also in the presence of supercoiled DNA. Ability to phosphorylate TP53/p53 in the presence of supercoiled DNA is dependent on C1D.

Reference:

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