Product Datasheet

DNA-PK Antibody

Catalog No: #33358

Package Size: #33358-1 50ul #33358-2 100ul

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

Description

Product Name	DNA-PK Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Applications	WB IHC IF
Species Reactivity	Hu
Specificity	The antibody detects endogenous levels of total DNA-PK protein.
Immunogen Type	Peptide
Immunogen Description	Synthesized peptide derived from human DNA-PK.
Target Name	DNA-PK
Other Names	DNA- PKcs; DNA-dependent protein kinase catalytic subunit; DNPK1; EC 2.7.11.1; P460
Accession No.	Swiss-Prot: P78527NCBI Gene ID: 5591
Uniprot	P78527
GeneID	5591;
SDS-PAGE MW	450kd
Concentration	1.0mg/ml
Formulation	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C

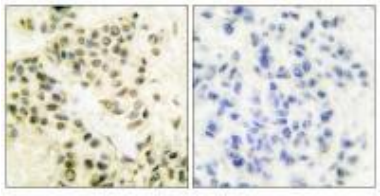
Application Details

Western blotting: 1:500~1:3000

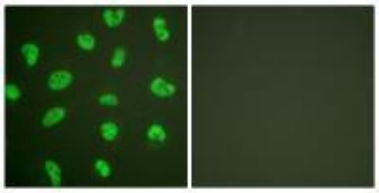
Immunohistochemistry: 1:50~1:100

Immunofluorescence: 1:100~1:500

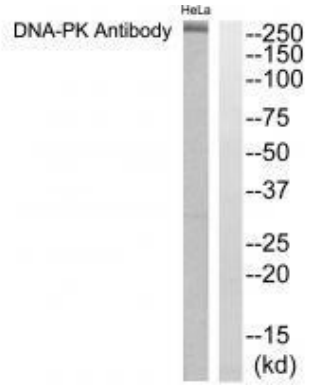
Images



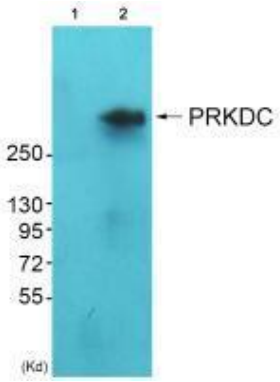
Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using DNA-PK antibody #33358.



Immunofluorescence analysis of HeLa cells, treated with Forskolin (40nM, 30mins), using DNA-PK antibody #33358.



Western blot analysis of extracts from HeLa cells using DNA-PK antibody #33358.



Western blot analysis of extracts from HeLa cells (Lane 2), using DNA-PK antiobdy #33358. The lane on the left is treated with systhesized peptide.

Background

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 machanism. Interacts with CRY1 and CRY2; negatively regulates CRY1 phosphorylation.

Wesley D. Block, Nucleic Acids Res., Apr 2004; 32: 1967 - 1972.
Katherine S. Pawelczak, Nucleic Acids Res., Jan 2005; 33: 152 - 161.
Eun-Jung Park, Nucleic Acids Res., Dec 2003; 31: 6819 - 6827.
Suisheng Zhang, Nucleic Acids Res., Jan 2004; 32: 1 - 10.

Note: This product is for in vitro research use only