

Ku-86 Polyclonal Antibody

Catalog # AP70687

Specification

Ku-86 Polyclonal Antibody - Product Information

Application	WB, IHC-P
Primary Accession	P13010
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal

Ku-86 Polyclonal Antibody - Additional Information

Gene ID 7520

Other Names

XRCC5; G22P2; X-ray repair cross-complementing protein 5; 86 kDa subunit of Ku antigen; ATP-dependent DNA helicase 2 subunit 2; ATP-dependent DNA helicase II 80 kDa subunit; CTC box-binding factor 85 kDa subunit; CTC85; CTCBF; DNA repair pr

Dilution

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications.
IHC-P~~N/A

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

Ku-86 Polyclonal Antibody - Protein Information

Name XRCC5

Synonyms G22P2

Function

Single-stranded DNA-dependent ATP-dependent helicase that plays a key role in DNA non-homologous end joining (NHEJ) by recruiting DNA-PK to DNA (PubMed:11493912, PubMed:12145306, PubMed:7957065, PubMed:8621488). Required for double-strand break repair and V(D)J recombination (PubMed:11493912, PubMed:12145306, PubMed:7957065, PubMed:>8621488). Also has a role in chromosome translocation (PubMed:>11493912, PubMed:>12145306, PubMed:>7957065, PubMed:>8621488). The DNA helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner (PubMed:>11493912, PubMed:>12145306, PubMed:>7957065, PubMed:>8621488). It works in the 3'-5' direction (PubMed:>11493912, PubMed:>12145306, PubMed:>7957065, PubMed:>8621488). During NHEJ, the XRCC5-XRRC6 dimer performs the recognition step: it recognizes and binds to the broken ends of the DNA and protects them from further resection (PubMed:>11493912, PubMed:>12145306, PubMed:>7957065, PubMed:>8621488). Binding to DNA may be mediated by XRCC6 (PubMed:>11493912, PubMed:>12145306, PubMed:>7957065, PubMed:>8621488). The XRCC5-XRRC6 dimer acts as a regulatory subunit of the DNA-dependent protein kinase complex DNA-PK by increasing the affinity of the catalytic subunit PRKDC to DNA by 100-fold (PubMed:>11493912, PubMed:>12145306, PubMed:>20383123, PubMed:>7957065, PubMed:>8621488). The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step (PubMed:>12145306, PubMed:>20383123, PubMed:>7957065, PubMed:>8621488). The XRCC5-XRRC6 dimer probably also acts as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), by catalyzing the beta- elimination of the 5' deoxyribose-5-phosphate at an abasic site near double-strand breaks (PubMed:>20383123). XRCC5 probably acts as the catalytic subunit of 5'-dRP activity, and allows to 'clean' the termini of abasic sites, a class of nucleotide damage commonly associated with strand breaks, before such broken ends can be joined (PubMed:>20383123). The XRCC5-XRRC6 dimer together with APEX1 acts as a negative regulator of transcription (PubMed:>8621488). In association with NAA15, the XRCC5-XRRC6 dimer binds to the osteocalcin promoter and activates osteocalcin expression (PubMed:>12145306). 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:>12145306).

href="http://www.uniprot.org/citations/32103174" target="_blank">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)). 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](http://www.uniprot.org/citations/28712728)).

Cellular Location

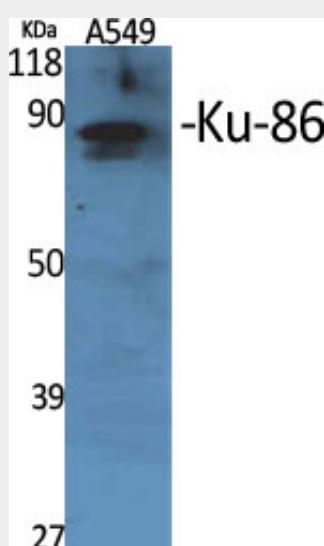
Nucleus. Nucleolus Chromosome

Ku-86 Polyclonal Antibody - Protocols

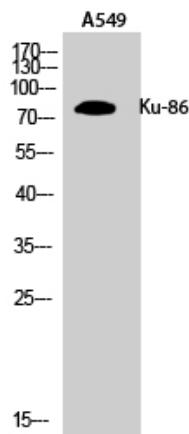
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

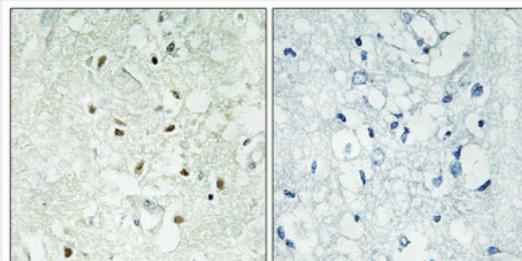
Ku-86 Polyclonal Antibody - Images



Western Blot analysis of various cells using Ku-86 Polyclonal Antibody



Western Blot analysis of A549 cells using Ku-86 Polyclonal Antibody



Immunohistochemical analysis of paraffin-embedded Human brain. Antibody was diluted at 1:100(4°,overnight). High-pressure and temperature Tris-EDTA,pH8.0 was used for antigen retrieval. Negetive contrl (right) obtaned from antibody was pre-absorbed by immunogen peptide.

Ku-86 Polyclonal Antibody - Background

Single-stranded DNA-dependent ATP-dependent helicase. Has a role in chromosome translocation. The DNA helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner. It works in the 3'-5' direction. Binding to DNA may be mediated by XRCC6. Involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. The XRCC5/6 dimer acts as regulatory subunit of the DNA-dependent protein kinase complex DNA-PK by increasing the affinity of the catalytic subunit PRKDC to DNA by 100-fold. The XRCC5/6 dimer is probably involved in stabilizing broken DNA ends and bringing them together (PubMed:12145306, PubMed:20383123, PubMed:7957065, PubMed:8621488). The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step. In association with NAA15, the XRCC5/6 dimer binds to the osteocalcin promoter and activates osteocalcin expression (PubMed:20383123). The XRCC5/6 dimer probably also acts as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), by catalyzing the beta-elimination of the 5' deoxyribose- 5-phosphate at an abasic site near double-strand breaks. XRCC5 probably acts as the catalytic subunit of 5'-dRP activity, and allows to 'clean' the termini of abasic sites, a class of nucleotide damage commonly associated with strand breaks, before such broken ends can be joined. The XRCC5/6 dimer together with APEX1 acts as a negative regulator of transcription (PubMed:8621488). 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.