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Ku80 Antibody

Rabbit mAb
Catalog # AP90645

Product Information

Application	WB, IHC, IF, ICC, IP, IHF
Primary Accession	P13010
Reactivity	Human
Clonality	Monoclonal
Other Names	CTC box-binding factor 85 kDa subunit; CTC85; CTCBF; DNA repair protein XRCC5; G22P2; KARP1; Ku autoantigen, 80kDa; Ku80; Ku86 autoantigen related protein 1; KUB2; NFIV;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	82705

Additional Information

Dilution	WB 1:5000~1:10000 IHC 1:50~1:200 ICC/IF 1:100~1:500 IP 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Ku80
Description	Ku80 the 80-kilodalton subunit of the Ku complex, also known as ATP-dependant DNA helicase II. A single stranded DNA-dependent ATP-dependent helicase. It functions together with the DNA ligase IV-XRCC4 complex in the repair of DNA double-strand break by non-homologous end joining and the completion of V(D)J recombination events.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

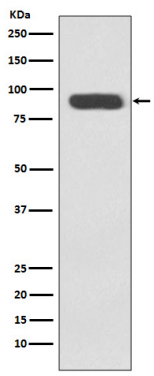
Protein Information

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 XRCC5-XRRC6 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 (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:32103174). Binding to U3 small nucleolar RNA, recruits PRKDC and XRCC5/Ku86 to the small-subunit processome (PubMed: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).

Cellular Location Nucleus. Nucleus, nucleolus Chromosome

Images



Western blot analysis of Ku80 expression in HeLa cell lysate.

Image not found : 202311/AP90645-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human colon, using Ku80 Antibody.