ARG57867
anti-Ku80 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes Ku80
Tested Reactivity	Hu
Tested Application	IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	Ku80
Species	Human
Immunogen	Recombinant protein of Human Ku80.
Conjugation	Un-conjugated
Alternate Names	double-strand-break rejoining; Thyroid-lupus autoantigen; Nuclear factor IV; KU80; DNA repair protein XRCC5; KARP1; Lupus Ku autoantigen protein p86; EC 3.6.4.-; CTCBF; CTC85; ATP-dependent DNA helicase 2 subunit 2; X-ray repair cross-complementing protein 5; ATP-dependent DNA helicase II 80 kDa subunit; CTC box-binding factor 85 kDa subunit; KARP-1; X-ray repair complementing defective repair in Chinese hamster cells 5; 86 kDa subunit of Ku antigen; KUB2; NFIV; TLAA; Ku80; Ku86

Application Instructions

Application table

Application	Dilution
IHC-P	1:50 - 1:200
WB	1:500 - 1:2000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control: HepG2

Properties

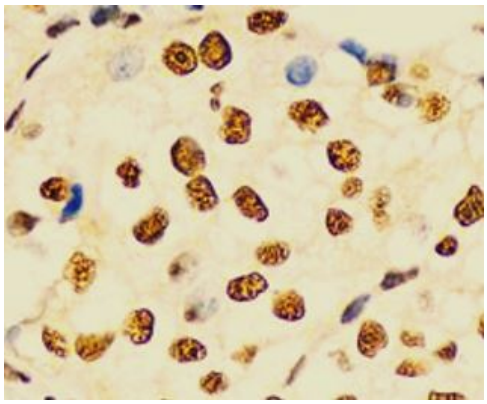
Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.3), 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

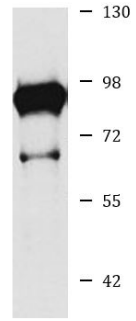
Gene Symbol	XRCC5
Gene Full Name	X-ray repair complementing defective repair in Chinese hamster cells 5 (double-strand-break rejoining)
Background	The protein encoded by this gene is the 80-kilodalton subunit of the Ku heterodimer protein which is also known as ATP-dependant DNA helicase II or DNA repair protein XRCC5. Ku is the DNA-binding component of the DNA-dependent protein kinase, and 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. This gene functionally complements Chinese hamster xrs-6, a mutant defective in DNA double-strand break repair and in ability to undergo V(D)J recombination. A rare microsatellite polymorphism in this gene is associated with cancer in patients of varying radiosensitivity. [provided by RefSeq, Jul 2008]
Function	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. 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. 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. [UniProt]
Calculated Mw	83 kDa
PTM	Phosphorylated on serine residues. Phosphorylation by PRKDC may enhance helicase activity. Sumoylated. Ubiquitinated by RNF8 via 'Lys-48'-linked ubiquitination following DNA damage, leading to its degradation and removal from DNA damage sites (PubMed:22266820). Ubiquitinated by RNF138, leading to remove the Ku complex from DNA breaks (PubMed:26502055). [UniProt]
Cellular Localization	Chromosome, Nucleus, nucleolus. [UniProt]

Images



ARG57867 anti-Ku80 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human prostate cancer stained with ARG57867 anti-Ku80 antibody at 1:100 dilution.



ARG57867 anti-Ku80 antibody WB image

Western blot: 25 µg of HepG2 cell lysate stained with ARG57867 anti-Ku80 antibody at 1:1000 dilution.