

## ARG54161 anti-Ku80 antibody

Package: 100 µl  
Store at: -20°C

### Summary

Product Description	Mouse Monoclonal antibody recognizes XRCC5
Tested Reactivity	Hu, Mk
Tested Application	ICC/IF, IP, WB
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Target Name	Ku80
Species	Human
Immunogen	Purified recombinant human Ku80 protein fragments expressed in E.coli
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
	ICC/IF	1:400
	IP	1:100
	WB	1:1000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

### Properties

Form	Liquid
Purification	Affinity purified
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	3 mg/ml
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

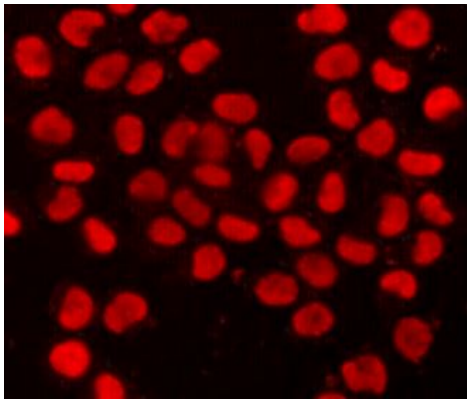
cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note

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

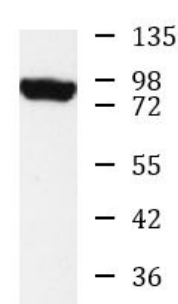
## Bioinformation

Database links	<a href="#">GeneID: 7520 Human</a> <a href="#">Swiss-port # P13010 Human</a>
Gene Symbol	XRCC5
Gene Full Name	X-ray repair complementing defective repair in Chinese hamster cells 5 (double-strand-break rejoining)
Background	<p>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.</p>
Function	<p>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]</p>
Research Area	Gene Regulation antibody
Calculated Mw	83 kDa
PTM	<p>Phosphorylated on serine residues. Phosphorylation by PRKDC may enhance helicase activity. Sumoylated.</p> <p>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).</p>
Cellular Localization	Nucleus. Nucleus, nucleolus. Chromosome



ARG54161 anti-Ku80 antibody ICC/IF image

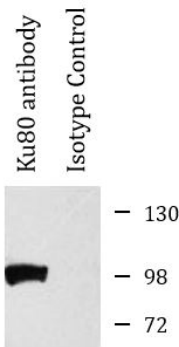
Immunofluorescence: HeLa cells stained with ARG54161 anti-Ku80 antibody at 1:400 dilution.



HeLa

ARG54161 anti-Ku80 antibody WB image

Western blot: HeLa cell lysate stained with ARG54161 anti-Ku80 antibody at 1:1000 dilution.



ARG54161 anti-Ku80 antibody IP image

Immunoprecipitation: HeLa cell lysates were immunoprecipitated and stained with ARG54161 anti-Ku80 antibody.