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

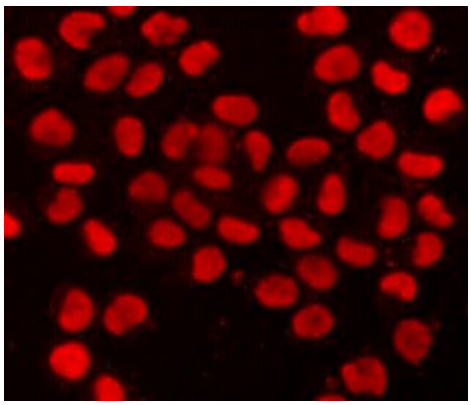
Form	Liquid
Purification	Affinity purified
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	3 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot 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

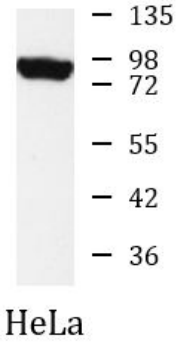
Database links	GeneID: 7520 Human Swiss-port # P13010 Human
Gene Symbol	XRCC5
Gene Full Name	X-ray repair complementing defective repair in Chinese hamster cells 5 (double-strand-break rejoining)
Background	Single-stranded DNA-dependent ATP-dependent helicase. Has a role in chromosome translocation. 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. 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.
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]
Research Area	Gene Regulation antibody
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).
Cellular Localization	Nucleus. Nucleus, nucleolus. Chromosome

Images



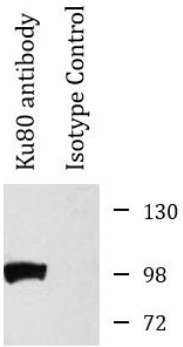
ARG54161 anti-Ku80 antibody ICC/IF image

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



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.