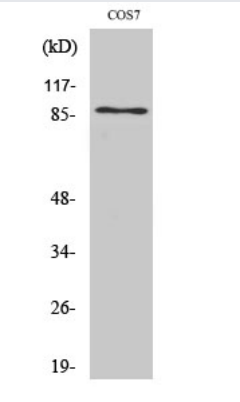
Ku-80 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	Ku-80, Polyclonal Antibody
Full Product Name	Ku-80 Polyclonal Antibody
Product Gene Name	anti-Ku-80 antibody
Product Synonym Gene Name	XRCC5
Product Synonym 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
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Monkey
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.
Molecular Weight	82,705 Da
Chromosome Location	Chromosome: 2; NC_000002.11 (216974020..217071016). Location: 2q35
OMIM	194364
3D Structure	ModBase 3D Structure for P13010
Applications Tested/Suitable for anti-Ku-80 antibody	Western Blot (WB), Immunohistochemistry-Paraffin (IHC-P), Immunofluorescence (IF)
Related Product Information for anti-Ku-80 antibody	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: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.
Other Notes	Small volumes of anti-Ku-80 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Ku-80 purchase	MBS9244135 is an antibody targeting Ku-80. Also known as Ku-80 Polyclonal Antibody. Reactive in Human, Monkey. Host: Rabbit.



Wester Blot (WB) of anti-Ku-80 antibody
Dilution: Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300.
Immunofluorescence: 1/200 - 1/1000. ELISA: 1/5000. Not yet tested in other applications.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Ku-80. It may not necessarily be applicable to this product.

NCBI GI #	10863945
NCBI GeneID	7520
NCBI Accession #	NP_066964.1
UniProt Primary Accession #	P13010
UniProt Secondary Accession #	Q0Z7V0; Q4VBQ5; Q53HH7; Q7M4N0; Q9UCQ0; Q9UCQ1; A8K3X5
UniProt Related Accession #	P13010
GenBank Nucleotide #	NM_021141.3
NCBI Official Full Name	X-ray repair cross-complementing protein 5
NCBI Official Synonym Full Names	X-ray repair complementing defective repair in Chinese hamster cells 5 (double-strand-break rejoining)
NCBI Official Symbol	XRCC5
NCBI Official Synonym Symbols	KU80; KUB2; Ku86; NFIV; KARP1; KARP-1
UniProt Protein Name	X-ray repair cross-complementing protein 5
UniProt Synonym Protein Names	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 protein XRCC5; Ku80; Ku86; Lupus Ku autoantigen protein p86; Nuclear factor IV; Thyroid-lupus autoantigen; TLAA; X-ray repair complementing defective repair in Chinese hamster cells 5 (double-strand-break rejoining)
UniProt Gene Name	XRCC5
UniProt Synonym Gene Names	G22P2; CTC85; CTCBF; TLAA
UniProt Entry Name	XRCC5_HUMAN
NCBI Protein Information	X-ray repair cross-complementing protein 5; TLAA; CTC85; CTCBF; nuclear factor IV; Ku autoantigen, 80kDa; DNA repair protein XRCC5; thyroid-lupus autoantigen; 86 kDa subunit of Ku antigen; lupus Ku autoantigen protein p86; Ku86 autoantigen related protein
NCBI Summary for Ku-80	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]

UniProt Comments for Ku-80	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. 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. 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 p70. Protein type: RNA-binding; DNA-binding; EC 3.6.4.-; Nuclear receptor co-regulator; Helicase; Nucleolus; EC 3.6.1.- Chromosomal Location of Human Ortholog: 2q35 Cellular Component: nucleoplasm; nuclear telomere cap complex; membrane; nuclear chromosome, telomeric region; nucleolus; plasma membrane; nucleus; cytosol Molecular Function: ATP-dependent DNA helicase activity; protein C-terminus binding; protein binding; DNA binding; ubiquitin protein ligase binding; double-stranded DNA binding; telomeric DNA binding; damaged DNA binding; double-stranded telomeric DNA binding; 5'-deoxyribose-5-phosphate lyase activity; ATP binding Biological Process: response to drug; cell proliferation; positive regulation of neurogenesis; transcription, DNA-dependent; viral reproduction; double-strand break repair; positive regulation of interferon type I production; innate immune response; brain development; DNA repair; negative regulation of transcription, DNA-dependent; telomere maintenance; double-strand break repair via nonhomologous end joining; DNA duplex unwinding; DNA recombination
Research Articles on Ku-80	**1.** Two (XRCC5 and TOP2A) of seven DNA repair and replication proteins studied were prognostic for melanoma.
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