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Anti-Ku80 Antibody

Catalog # ABO10955

Product Information

Application	WB, IHC-P, ICC
Primary Accession	P13010
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for X-ray repair cross-complementing protein 5(XRCC5) detection. Tested with WB, IHC-P, ICC in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	7520
Other Names	X-ray repair cross-complementing protein 5, 3.6.4.-, 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), XRCC5, G22P2
Calculated MW	82705
Application Details	Immunocytochemistry , 0.5-1 μg/ml, Human, - Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μg/ml, Human, By Heat Western blot, 0.1-0.5 μg/ml, Human
Subcellular Localization	Nucleus. Nucleus, nucleolus. Chromosome.
Source	Eukaryota
Protein Name	X-ray repair cross-complementing protein 5
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Ku80(648-662aa KFSEEQRFNNFLKAL).
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the ku80 family.

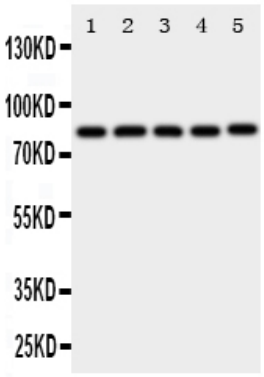
Protein Information

Name	XRCC5 (HGNC:12833)
Synonyms	G22P2
Function	DNA-binding protein critical for the DNA damage response, specifically in repairing double-strand breaks (DSBs) via the classical non-homologous end joining (NHEJ) pathway. It forms a heterodimer with XRCC6 (Ku70), creating the Ku70:Ku80 heterodimer (Ku complex), which serves as a DNA end-binding complex. It primarily binds DSBs and recruits essential repair factors, assembling the core long-range NHEJ complex to facilitate the alignment and ligation of broken DNA ends (PubMed:11493912, PubMed:33854234, PubMed:34352203). This pathway ensures the rapid repair of cytotoxic and mutagenic DSBs and contributes to the generation of diversity in T-cell receptors and antibodies through mechanisms such as V(D)J recombination (PubMed:9742108). Likely acts as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), catalyzing the beta-elimination of the 5'-deoxyribose- 5-phosphate at abasic sites near DSBs. This activity cleans the termini of abasic sites, a common form of nucleotide damage, preparing broken ends for ligation (PubMed:20383123). It may also possess 3'-5' DNA helicase activity, although this has not been confirmed in vivo, and its physiological significance remains unclear (PubMed:7957065). Beyond DNA repair, the protein contributes to telomere maintenance (PubMed:29490055). It is also implicated in transcriptional regulation, acting as a cofactor for various transcription factors (PubMed:12145306, PubMed:8621488). It 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). Can also bind RNAs and recruits PRKDC to a wide range of cellular RNAs, including the U3 small nucleolar RNA, playing a role in the biogenesis of ribosomal RNAs (PubMed:32103174).
Cellular Location	Nucleus. Nucleus, nucleolus Chromosome

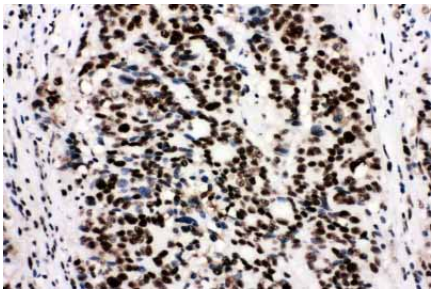
Background

XRCC5(X-ray Repair, Complementing Defective, In Chinese Hamster, 5), also known as Ku80 or Ku86, is a protein that in humans, is encoded by the XRCC5 gene. The XRCC5 gene encodes the 80-kD subunit of the Ku autoantigen, a heterodimer which contributes to genomic integrity through its ability to bind DNA double-strand breaks and facilitate repair by the nonhomologous end joining(NHEJ) pathway. The XRCC5 gene is mapped to 2q35. Human colon cancer cells heterozygous for Ku86 are haploinsufficient with an increase in polyploid cells, a reduction in cell proliferation, elevated p53 levels, and a slight hypersensitivity to ionizing radiation. Functional inactivation of the second Ku86 allele results in cells with a drastically reduced doubling time. The Ku86 locus is essential in human somatic tissue culture cells by experiments demonstration. A rare microsatellite polymorphism in XRCC5 is associated with cancer in patients of varying radiosensitivity.

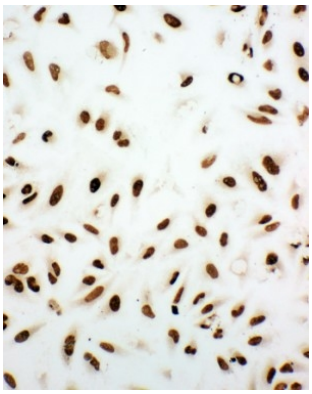
Images



Anti-Ku80 antibody, ABO10955, Western blottingAll lanes: Anti Ku80 (ABO10955) at 0.5ug/mlLane 1: JURKAT Whole Cell Lysate at 40ugLane 2: CEM Whole Cell Lysate at 40ugLane 3: RAJI Whole Cell Lysate at 40ugLane 4: COLO320 Whole Cell Lysate at 40ugLane 5: HT1080 Whole Cell Lysate at 40ugPredicted bind size: 83KDObserved bind size: 83KD



Anti-Ku80 antibody, ABO10955, IHC(P)IHC(P): Human Mammary Cancer Tissue



Anti-Ku80 antibody, ABO10955, ICCICC: HELA Cell

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