

Anti-Ku70 Picoband Antibody
Catalog # ABO12207**Specification****Anti-Ku70 Picoband Antibody - Product Information**

Application	WB, IHC
Primary Accession	P12956
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for X-ray repair cross-complementing protein 6(XRCC6) detection. Tested with WB, IHC-P in Human.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Ku70 Picoband Antibody - Additional Information

Gene ID 2547

Other Names

X-ray repair cross-complementing protein 6, 3.6.4.-, 4.2.99.-, 5'-deoxyribose-5-phosphate lyase Ku70, 5'-dRP lyase Ku70, 70 kDa subunit of Ku antigen, ATP-dependent DNA helicase 2 subunit 1, ATP-dependent DNA helicase II 70 kDa subunit, CTC box-binding factor 75 kDa subunit, CTC75, CTCBF, DNA repair protein XRCC6, Lupus Ku autoantigen protein p70, Ku70, Thyroid-lupus autoantigen, TLAA, X-ray repair complementing defective repair in Chinese hamster cells 6, XRCC6, G22P1

Calculated MW

69843 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat
Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization

Nucleus . Chromosome .

Protein Name

X-ray repair cross-complementing protein 6

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

Immunogen

A synthetic peptide corresponding to a sequence at C-terminus of human Ku70 (464-496aa AIVEKLRFTYRSDSFENPVLQQHFRNLEALALD), different from the related mouse sequence by one

amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r^oConstitution, at 4°C for one month. It^oCan also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the ku70 family.

Anti-Ku70 Picoband Antibody - Protein Information

Name XRCC6

Synonyms G22P1

Function

Single-stranded DNA-dependent ATP-dependent helicase that plays a key role in DNA non-homologous end joining (NHEJ) by recruiting DNA-PK to DNA (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Required for double-strand break repair and V(D)J recombination (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Also has a role in chromosome translocation (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Has a role in chromosome translocation (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). The DNA

helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner (PubMed: [11493912](http://www.uniprot.org/citations/11493912), PubMed: [12145306](http://www.uniprot.org/citations/12145306), PubMed: [20493174](http://www.uniprot.org/citations/20493174), PubMed: [2466842](http://www.uniprot.org/citations/2466842), PubMed: [7957065](http://www.uniprot.org/citations/7957065), PubMed: [8621488](http://www.uniprot.org/citations/8621488), PubMed: [9742108](http://www.uniprot.org/citations/9742108)). It works in the 3'-5' direction (PubMed: [11493912](http://www.uniprot.org/citations/11493912), PubMed: [12145306](http://www.uniprot.org/citations/12145306), PubMed: [20493174](http://www.uniprot.org/citations/20493174), PubMed: [2466842](http://www.uniprot.org/citations/2466842), PubMed: [7957065](http://www.uniprot.org/citations/7957065), PubMed: [8621488](http://www.uniprot.org/citations/8621488), PubMed: [9742108](http://www.uniprot.org/citations/9742108)). During NHEJ, the XRCC5-XRCC6 dimer performs the recognition step: it recognizes and binds to the broken ends of the DNA and protects them from further resection (PubMed: [11493912](http://www.uniprot.org/citations/11493912), PubMed: [12145306](http://www.uniprot.org/citations/12145306), PubMed: [20493174](http://www.uniprot.org/citations/20493174), PubMed: [2466842](http://www.uniprot.org/citations/2466842), PubMed: [7957065](http://www.uniprot.org/citations/7957065), PubMed: [8621488](http://www.uniprot.org/citations/8621488), PubMed: [9742108](http://www.uniprot.org/citations/9742108)). Binding to DNA may be mediated by XRCC6 (PubMed: [11493912](http://www.uniprot.org/citations/11493912), PubMed: [12145306](http://www.uniprot.org/citations/12145306), PubMed: [20493174](http://www.uniprot.org/citations/20493174), PubMed: [2466842](http://www.uniprot.org/citations/2466842), PubMed: [7957065](http://www.uniprot.org/citations/7957065), PubMed: [8621488](http://www.uniprot.org/citations/8621488), PubMed: [9742108](http://www.uniprot.org/citations/9742108)). The XRCC5-XRCC6 dimer acts as a 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 (PubMed: [11493912](http://www.uniprot.org/citations/11493912), PubMed: [12145306](http://www.uniprot.org/citations/12145306), PubMed: [20493174](http://www.uniprot.org/citations/20493174), PubMed: [2466842](http://www.uniprot.org/citations/2466842), PubMed: [7957065](http://www.uniprot.org/citations/7957065), PubMed: [8621488](http://www.uniprot.org/citations/8621488), PubMed: [9742108](http://www.uniprot.org/citations/9742108)). The XRCC5-XRCC6 dimer is probably involved in stabilizing broken DNA ends and bringing them together (PubMed: [11493912](http://www.uniprot.org/citations/11493912), PubMed: [12145306](http://www.uniprot.org/citations/12145306), PubMed: [20493174](http://www.uniprot.org/citations/20493174), PubMed: [2466842](http://www.uniprot.org/citations/2466842), PubMed: [7957065](http://www.uniprot.org/citations/7957065), PubMed: [8621488](http://www.uniprot.org/citations/8621488), PubMed: [9742108](http://www.uniprot.org/citations/9742108)). The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step (PubMed: [11493912](http://www.uniprot.org/citations/11493912), PubMed: [12145306](http://www.uniprot.org/citations/12145306), PubMed: [20493174](http://www.uniprot.org/citations/20493174), PubMed: [2466842](http://www.uniprot.org/citations/2466842), PubMed: [7957065](http://www.uniprot.org/citations/7957065), PubMed: [8621488](http://www.uniprot.org/citations/8621488), PubMed: [9742108](http://www.uniprot.org/citations/9742108)).

[9742108](http://www.uniprot.org/citations/9742108)). 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 (PubMed:[20383123](http://www.uniprot.org/citations/20383123)). 5'-dRP lyase activity 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 (PubMed:[20383123](http://www.uniprot.org/citations/20383123)). The XRCC5-XRCC6 dimer together with APEX1 acts as a negative regulator of transcription (PubMed:[8621488](http://www.uniprot.org/citations/8621488)). In association with NAA15, the XRCC5-XRCC6 dimer binds to the osteocalcin promoter and activates osteocalcin expression (PubMed:[12145306](http://www.uniprot.org/citations/12145306)). 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](http://www.uniprot.org/citations/28712728)).

Cellular Location

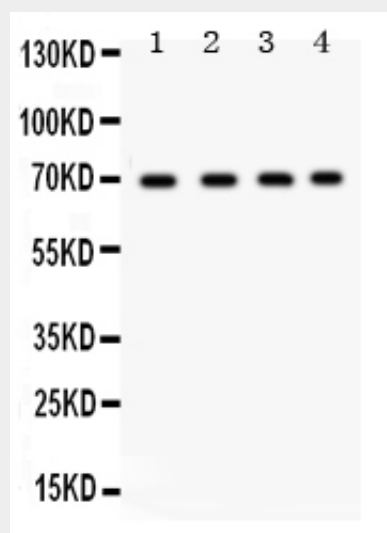
Nucleus. Chromosome

Anti-Ku70 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

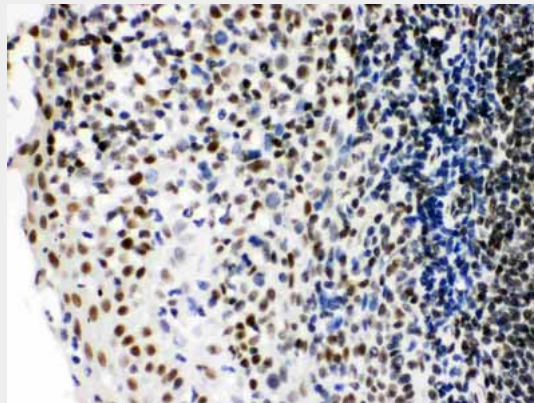
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Ku70 Picoband Antibody - Images



Anti- Ku70 Picoband antibody, ABO12207, Western blotting All lanes: Anti (ABO12207) at 0.5ug/ml Lane 1: A549 Whole Cell Lysate at 40ug Lane 2: HELA Whole Cell Lysate at 40ug Lane 3:

HEPG2 Whole Cell Lysate at 40ug Lane 4: MCF-7 Whole Cell Lysate at 40ug Predicted bind size: 70KD
Observed bind size: 70KD



Anti- Ku70 Picoband antibody, ABO12207, IHC(P)IHC(P): Human Tonsil Tissue

Anti-Ku70 Picoband Antibody - Background

XRCC6 (X-Ray Repair, Complementing Defective, In Chinese Hamster, 6), also called Ku70, G22P1 or TLAA, is a protein that in humans, is encoded by the XRCC6 gene. In addition, the XRCC6 gene encodes subunit p70 of the p70/p80 autoantigen which consists of 2 proteins of molecular mass of approximately 70,000 and 80,000 daltons that dimerize to form a 10 S DNA-binding complex. The XRCC6 gene is mapped to 22q13.2. XRCC6 and Mre11 are differentially expressed during meiosis. XRCC6 interacts with Baxa, a mediator of mitochondrial-dependent apoptosis. Disruption of both FANCC and XRCC6 suppressed sensitivity to crosslinking agents, diminished chromosome breaks, and reversed defective homologous recombination. Ku70 binds directly to free DNA ends, committing them to NHEJ repair. In early meiotic prophase, however, when meiotic recombination is most probably initiated, Mre11 was abundant, whereas XRCC6 was not detectable.