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Anti-Ku70 Antibody
Catalog # ABO10957

Specification

Anti-Ku70 Antibody - Product Information

Application	**WB, IHC-P, ICC**
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, ICC in Human.

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

Anti-Ku70 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
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 . Chromosome .

Protein Name
X-ray repair cross-complementing protein 6

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 Ku70(530-545aa YPPDYNPEGKVTKRKH).

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 ku70 family.

Anti-Ku70 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:<a href="http://www.uniprot.org/citations/11493912"

target="_blank">11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). It works in the 3'-5' direction (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). During NHEJ, the XRCC5-XRRC6 dimer performs the recognition step: it recognizes and binds to the broken ends of the DNA and protects them from further resection (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Binding to DNA may be mediated by XRCC6 (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). The XRCC5-XRRC6 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, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). The XRCC5-XRRC6 dimer is probably involved in stabilizing broken DNA ends and bringing them together (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed: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). 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). The XRCC5-XRRC6 dimer together with APEX1 acts as a negative regulator of transcription (PubMed:8621488). In association with NAA15, the XRCC5-XRRC6 dimer binds to the osteocalcin promoter and activates osteocalcin expression (PubMed: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). Negatively regulates apoptosis by interacting with BAX and sequestering it from the mitochondria (PubMed:15023334). Might have deubiquitination activity, acting on BAX (PubMed:18362350).

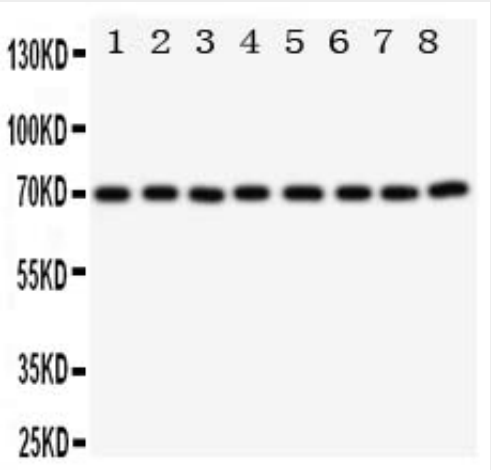
Cellular Location
Nucleus. Chromosome. Cytoplasm. Note=When trimethylated, localizes in the cytoplasm.

Anti-Ku70 Antibody - Protocols

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

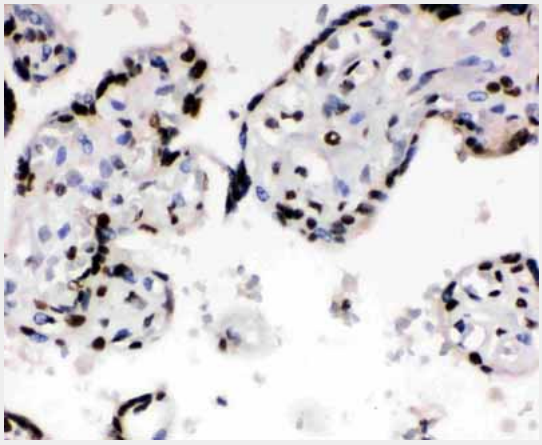
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Ku70 Antibody - Images

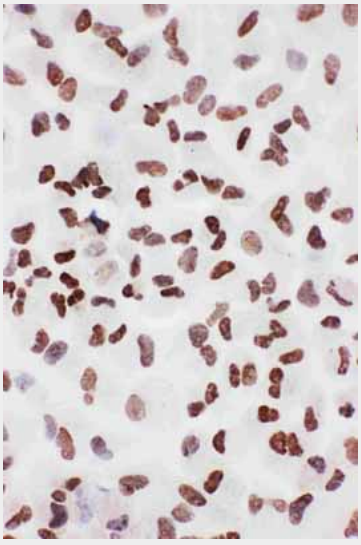


Anti-Ku70 antibody, ABO10957, Western blottingAll lanes: Anti Ku70 (ABO10957) at 0.5ug/mlLane 1: HT1080 Whole Cell Lysate at 40ugLane 2: SGC Whole Cell Lysate at 40ugLane 3: MM453 Whole

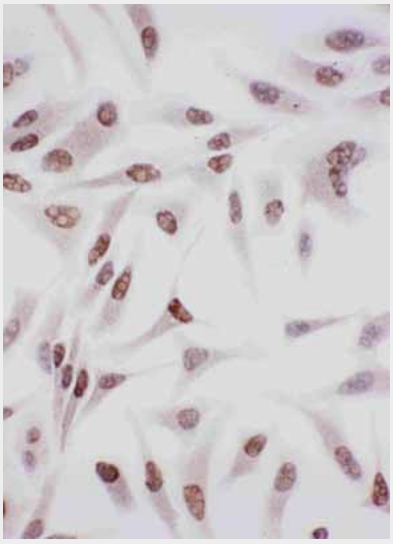
Cell Lysate at 40ugLane 4: SW620 Whole Cell Lysate at 40ugLane 5: HELA Whole Cell Lysate at 40ugLane 6: A431 Whole Cell Lysate at 40ugLane 7: A549 Whole Cell Lysate at 40ugLane 8: RAJI Whole Cell Lysate at 40ugPredicted bind size: 70KDObserved bind size: 70KD



Anti-Ku70 antibody, ABO10957, IHC(P)IHC(P): Human Placenta Tissue



Anti-Ku70 antibody, ABO10957, ICCICC: A549 Cell



Anti-Ku70 antibody, ABO10957, ICCICC: HELA Cell

Anti-Ku70 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.