

Ku70 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52822**Specification**

Ku70 Antibody - Product Information

Application	IP, WB, ICC
Primary Accession	P12956
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	67 KDa

Ku70 Antibody - Additional Information**Gene ID** 2547**Other Names**

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;ATP-dependent DNA helicase 2 subunit 1;ATP-dependent DNA helicase II 70 kDa subunit;CTC box binding factor 75 kDa subunit;CTC box-binding factor 75 kDa subunit;CTC75;CTCBF;CTCBF; DNA repair protein XRCC6;G22P1;Ku 70;Ku autoantigen 70kDa;Ku autoantigen p70 subunit;Ku autoantigen, 70kDa;Ku p70;Ku70;Ku70 DNA binding component of DNA-dependent proteinkinase complex (thyroid autoantigen 70 kDa;Kup70;Lupus Ku autoantigen protein p70;ML8;Thyroid autoantigen 70kD (Ku antigen);Thyroid autoantigen;Thyroid lupus autoantigen;Thyroid lupus autoantigen;Thyroid lupus autoantigen p70;Thyroid-lupus autoantigen;TLAA;TLAA;X ray repair complementing defective repair in Chinese hamster cells 6;X-ray repair complementing defective repair in Chinese hamster cells 6;X-ray repair cross-complementing protein 6;XRCC 6;XRCC6;XRCC6_HUMAN.

DilutionIP~~1:500
WB~~1:1000
ICC~~1:200**Format**

Purified mouse monoclonal antibody in PBS(pH 7.4) containing with 0.09% (W/V) sodium azide and 50% glycerol.

Storage

Store at -20 °C.Stable for 12 months from date of receipt

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: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-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, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108).

[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)). 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

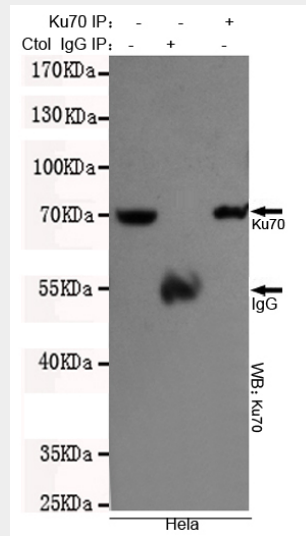
Nucleus. Chromosome

Ku70 Antibody - Protocols

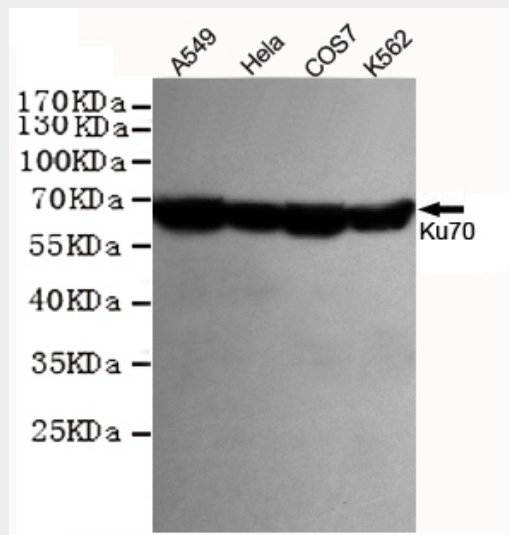
Provided below are standard protocols that you may find useful for product applications.

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

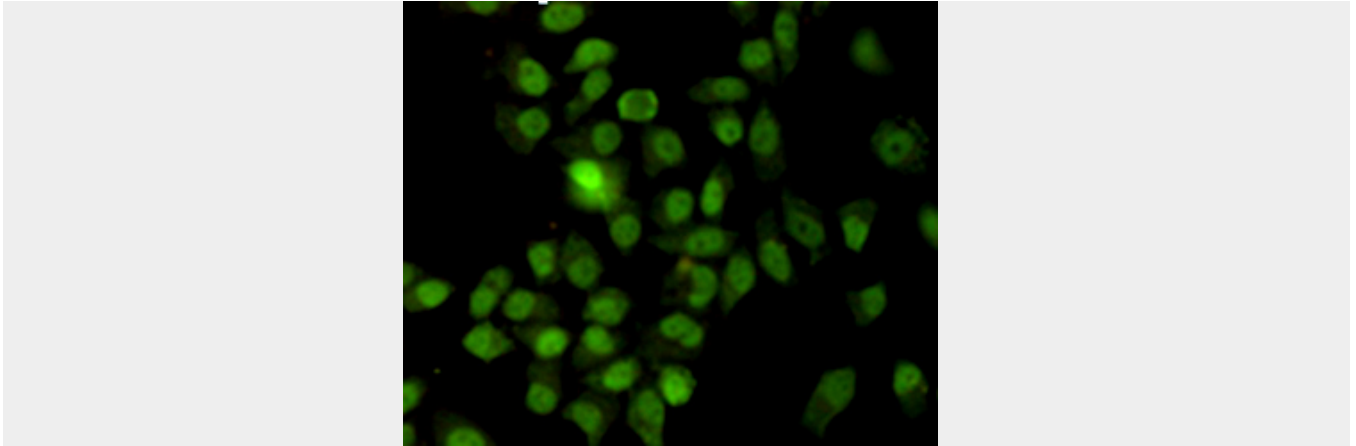
Ku70 Antibody - Images



Immunoprecipitation analysis of HeLa cell lysates using Ku70 mouse mAb.



Western blot detection of Ku70 in HeLa, A549, COS7 and K562 cell lysates using Ku70 mouse mAb (1:1000 diluted). Predicted band size: 70KDa. Observed band size: 67KDa.



Immunocytochemistry staining of HeLa cells fixed with -20°C Methanol and using anti-Ku70 antibody (dilution 1:200).

Ku70 Antibody - 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. Required for osteocalcin gene expression. 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. 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. The XRCC5/6 dimer together with APEX1 acts as a negative regulator of transcription.

Ku70 Antibody - References

Chan J.Y., et al. *J. Biol. Chem.* 264:3651-3654(1989).
Reeves W.H., et al. *J. Biol. Chem.* 264:5047-5052(1989).
Griffith A.J., et al. *Mol. Biol. Rep.* 16:91-97(1992).
Ota T., et al. *Nat. Genet.* 36:40-45(2004).
Halleck A., et al. Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.