SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-Ku70 / XRCC6 antibody

Catalog Number: SL2295R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Ku70 / XRCC6
Immunogen:	KLH conjugated synthetic peptide derived from human Ku-70: 231-330/609
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 IHC-P=1:100-500 IHC-F=1:100-500 ICC/IF=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human, (predicted: Mouse, Rat, Pig, Cow, Horse, Rabbit)
Predicted MW.:	70kDa
Subcellular Location:	The nucleus
Background:	The p70/p80 autoantigen is a nuclear complex consisting of two subunits with molecular masses of approximately 70 and 80 kDa. The complex functions as a single-stranded DNA-dependent ATP-dependent helicase. The complex may be involved in the repair of nonhomologous DNA ends such as that required for double-strand break repair, transposition, and V(D)J recombination. High levels of autoantibodies to p70 and p80 have been found in some patients with systemic lupus erythematosus. [provided by RefSeq, Jul 2008] **Function:** 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.

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	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. **Subunit:** Heterodimer of a 70 kDa (XRCC6) and a 80 kDa (XRCC5) subunit. The dimer associates in a DNA-dependent manner with PRKDC to form the DNA-dependent protein kinase complex DNA-PK, and with the LIG4-XRCC4 complex. The dimer also associates with NAA15, and this complex binds to the osteocalcin promoter and activates osteocalcin expression. In addition, XRCC6 interacts with the osteoblast-specific transcription factors MSX2, RUNX2 and DLX5. Interacts with ELF3. Interacts with XRCC6BP1. The XRCC5/6 dimer associates in a DNA-dependent manner with APEX1. Interacts with CLU. Binds to CDK9 isoform 2. Identified in a complex with DEAF1 and XRCC5. Interacts with DEAF1 (via the SAND domain); the interaction is direct and may be inhibited by DNA-binding. **Subcellular Location:** Nucleus. Chromosome. **Post-translational modifications:** Phosphorylation by PRKDC may enhance helicase activity. Phosphorylation of Ser-51 does not affect DNA repair. **Similarity:** Belongs to the ku70 family. Contains 1 Ku domain. Contains 1 SAP domain. **Database links:** **Entrez Gene:** 2547 Human **Entrez Gene:** 25019 Rat **SwissProt:** P12956 Human Ku-70 is a DNA repair protein. When cells undergo DNA double-strand breaks due to radiation damage, Ku70 can rapidly repair them, thereby increasing cell survival rate.

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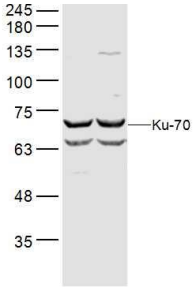
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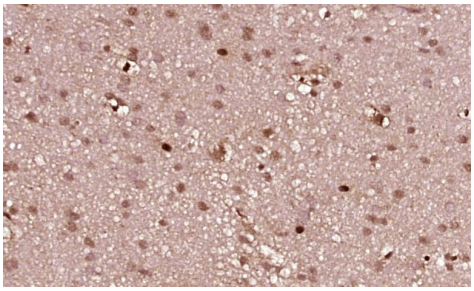
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	Ku is a multifunctional protein that plays a direct or indirect role in many important cellular life processes, such as repair of DNA double-strand breaks, immunoglobulin and T cell receptor V(D)J recombination, immunoglobulin class switching, DNA replication, and regulation of DNA transcription, and also plays a special role in the G2 and M phases of the cell cycle.

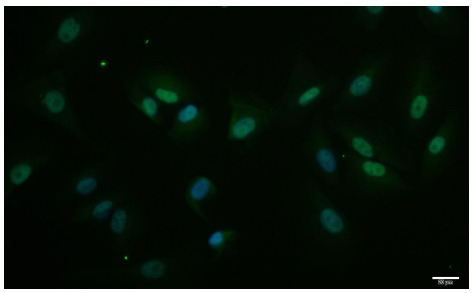
[VALIDATION IMAGES]



Sample:
HepG2(Human) Cell Lysate at 40 ug
Jurkat(Human) Cell Lysate at 40 ug
Primary: Anti-Ku-70 (SL10196R) at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 70 kD
Observed band size: 70 kD



Paraformaldehyde-fixed, paraffin embedded (human brain glioma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Ku-70) Polyclonal Antibody, Unconjugated (SL2295R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



A549 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (Ku-70) polyclonal Antibody, Unconjugated (SL2295R) 1:100, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.

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