

Product name:	Ku-80 Rabbit Polyclonal Antibody
Cat number:	ABN13157
Conjugate:	Unconjugated
Size:	100µL
Clone:	Polyclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	The antiserum was produced against synthesized peptide derived from human Ku70/80. AA range:683-732
Reactivity:	Human,Monkey
Applications:	WB 1:500-1:2000,IHC 1:100-1:300,ICC/IF 1:200-1:1000,ELISA 1:10000-1:20000
Molecular Weight:	80kDa
Purification:	Affinity purification
Form:	Liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

The protein encoded by this gene is the 80-kilodalton subunit of the Ku heterodimer protein which is also known as ATP-dependant DNA helicase II or DNA repair protein XRCC5. Ku is the DNA-binding component of the DNA-dependent protein kinase, and it functions together with the DNA ligase IV-XRCC4 complex in the repair of DNA double-strand break by non-homologous end joining and the completion of V(D)J recombination events. This gene functionally complements Chinese hamster xrs-6, a mutant defective in DNA double-strand break repair and in ability to undergo V(D)J recombination. A rare microsatellite polymorphism in this gene is associated with cancer in patients of varying radiosensitivity. [provided by RefSeq, Jul 2008],developmental stage:Expression increases during promyelocyte differentiation.,disease:Individuals with systemic lupus erythematosus (SLE) and related disorders produce extremely large amounts of autoantibodies to p70 and p86.,domain:The EEXXXDDL motif is required for the interaction with catalytic subunit PRKDC and its recruitment to sites of DNA damage.,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. It works in the 3'-5' direction. Binding to DNA may be mediated by p70. Involved in DNA nonhomologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. The Ku p70/p86 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 Ku p70/p86 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. In association with NARG1, the Ku p70/p86 dimer binds to the osteocalcin promoter and activates osteocalcin expression.,induction:In osteoblasts, by FGF2.,PTM:Phosphorylated on serine residues. Phosphorylation by PRKDC may enhance helicase activity.,PTM:Sumoylated.,similarity:Belongs to the ku80 family.,similarity:Contains 1 Ku domain.,subunit:Heterodimer of a 70 kDa and a 80 kDa 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 NARG1, and this complex displays DNA binding activity towards the osteocalcin FGF response element (OCFRE). In addition, the 80 kDa subunit binds to the osteoblast-specific transcription factors MSX2 and RUNX2. Interacts with ELF3. May interact with APLF.,