

Product Name: Ku80 (17A1) Rabbit Monoclonal Antibody**Catalog #: AMRe13156**

For research use only.

Summary

Description	Recombinant rabbit monoclonal antibody
Host	Rabbit
Application	WB,IHC,FC
Reactivity	Human
Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Concentration	0.5mg/ml. The concentration of this product may be batch-dependent.
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% New type preservative N and 0.05% protective protein.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:500-1:2000,IHC 1:200-1:500,FC 1:50-1:200
Molecular Weight	83kDa

Antigen Information

Gene Name	XRCC5
Alternative Names	CTC box-binding factor 85 kDa subunit; CTC85; CTCBF; DNA repair protein XRCC5; G22P2; KARP1; Ku autoantigen, 80kDa; Ku80; Ku86 autoantigen related protein 1; KUB2; NFIV;
Gene ID	7520.0
SwissProt ID	P13010
Immunogen	A synthetic peptide of human Ku80

Background

Ku80 the 80-kilodalton subunit of the Ku complex, also known as ATP-dependant DNA helicase II. A single stranded DNA-

dependent ATP-dependent helicase. 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. 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:7957065, PubMed:8621488, PubMed:12145306, PubMed:11493912). Required for double-strand break repair and V(D)J recombination (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:11493912). Also has a role in chromosome translocation (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:11493912). The DNA helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:11493912). It works in the 3'-5' direction (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:11493912). 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:7957065, PubMed:8621488, PubMed:12145306, PubMed:11493912). Binding to DNA may be mediated by XRCC6 (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:11493912). The XRCC5-XRCC6 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 (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:20383123, PubMed:11493912). The XRCC5-XRCC6 dimer is probably involved in stabilizing broken DNA ends and bringing them together (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:20383123). The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step (PubMed:7957065, PubMed:8621488, PubMed:12145306, PubMed:20383123). The XRCC5-XRCC6 dimer 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). XRCC5 probably acts as the catalytic subunit of 5'-dRP activity, and 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-XRCC6 dimer together with APEX1 acts as a negative regulator of transcription (PubMed:8621488). In association with NAA15, the XRCC5-XRCC6 dimer binds to the osteocalcin promoter and activates osteocalcin expression (PubMed:12145306). As part of the DNA-PK complex, involved in the early steps of ribosome assembly by promoting the processing of precursor rRNA into mature 18S rRNA in the small-subunit processome (PubMed:32103174). Binding to U3 small nucleolar RNA, recruits PRKDC and XRCC5/Ku86 to the small-subunit processome (PubMed:32103174). 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).

Research Area

Epigenetics and Nuclear Signaling

Image Data

HeLa
kDa
190 -
140 -
95 -
65 - ←
54 -
42 -
32 -
23 -

Western blot analysis of extracts from HeLa cells using Ku80 (17A1) Rabbit Monoclonal Antibody at 1:1000.