

Ku-70 (Acetyl Lys317) Polyclonal Antibody

Catalog # AP63280

Product Information

Application WB Primary Accession P12956

Reactivity Human, Rat, Mouse

HostRabbitClonalityPolyclonalCalculated MW69843

Additional Information

Gene ID 2547

Other Names X-ray repair cross-complementing protein 6 (EC 3.6.4.-) (EC 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)

Dilution WB~~WB 1:500-2000, ELISA 1:10000-20000

Format Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium

azide.

Storage Conditions -20°C

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:<u>11493912</u>, PubMed:<u>12145306</u>, PubMed:<u>20493174</u>,

PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108).

Also has a role in chromosome translocation (PubMed:11493912,

PubMed:<u>12145306</u>, PubMed:<u>20493174</u>, PubMed:<u>2466842</u>, PubMed:<u>7957065</u>, PubMed:<u>8621488</u>, PubMed:<u>9742108</u>). 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 NHEI, 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 NHEI 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

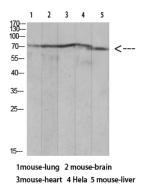
Nucleus. Chromosome. Cytoplasm. Note=When trimethylated, localizes in the cytoplasm.

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. 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.

Images



Western blot analysis of mouse-lung lysate, antibody was diluted at 1000. Secondary antibody was diluted at 1:20000

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.