10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Ku (p70/p80) Mouse Monoclonal Antibody [Clone KU729]

Purified Mouse Monoclonal Antibody
Catalog # AH10371

Product Information

Application	IF, FC
Primary Accession	P12956
Other Accession	P13010
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1, kappa
Clone Names	KU729
Calculated MW	69843

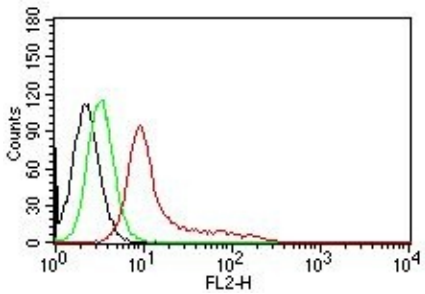
Additional Information

Gene ID	2547
Other Names	Ku (p70): 70kDa subunit of Ku antigen; ATP dependent DNA helicase 2 subunit 1; ATP-dependent DNA helicase II 70kDa subunit; CTC box-binding factor 75kDa subunit; CTC75; CTCBF; DNA repair protein XRCC6; G22P1; Ku autoantigen, 70kDa; Ku70; Kup70; Lupus Ku autoantigen protein p70; ML8; Thyroid autoantigen 70kD (Ku antigen); Thyroid-lupus autoantigen (TLAA); X-ray repair cross-complementing protein 6 (XRCC6) Ku (p80): 86kDa subunit of Ku antigen; ATP dependent DNA helicase 2 subunit 2; ATP dependent DNA helicase II 86Kd subunit; ATP-dependent DNA helicase II 80kDa subunit; CTC box-binding factor 85kDa subunit; CTC85; CTCBF; DNA repair protein XRCC5; KARP1; Ku autoantigen 80kDa; Ku80; Ku86 autoantigen related protein 1; KUB2; Lupus Ku autoantigen protein p86; Nuclear factor IV (NFIV); Thyroid-lupus autoantigen (TLAA); X-ray repair cross-complementing protein 5 (XRCC5)
Target/Specificity	Nuclear extract of human HL-60 cells
Application Note	Flow Cytometry (5ul per test per one million cells or 5ul per 100ul of whole blood); Immunofluorescence (1:50-1:100 for 30 minutes at RT); Optimal dilution for a specific application should be determined.
Format	0.5ml at 100ug/ml with BSA and azide
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Ku (p70/p80) Mouse Monoclonal Antibody [Clone KU729] is for research use only and not for use in diagnostic or therapeutic procedures.

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-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 NHEJ 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.

Images



Flow Cytometric analysis of human Ku (p70/p80) on K562 Cells. Black: Cells alone; Green: Isotype Control; Red: PE-labeled Ku MAb (KU729).