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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

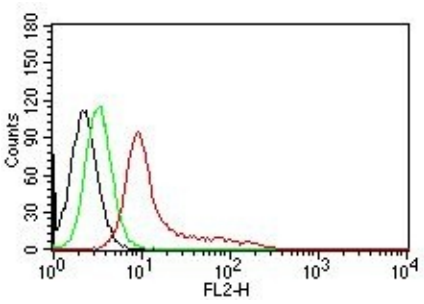
Additional Information

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 (HGNC:4055)
Synonyms	G22P1
Function	DNA-binding protein critical for the DNA damage response, specifically in repairing double-strand breaks (DSBs) via the classical non-homologous end joining (NHEJ) pathway. It forms a heterodimer with XRCC5 (Ku80), creating the Ku70:Ku80 heterodimer (Ku complex), which serves as a DNA end-binding complex. It primarily binds DSBs and recruits essential repair factors, assembling the core long-range NHEJ complex to facilitate the alignment and ligation of broken DNA ends (PubMed:11493912, PubMed:20493174, PubMed:33854234, PubMed:34352203, PubMed:9742108). This pathway ensures the rapid repair of cytotoxic and mutagenic DSBs and contributes to the generation of diversity in T-cell receptors and antibodies through mechanisms such as V(D)J recombination (PubMed:9742108). Likely acts as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), catalyzing the beta-elimination of the 5'-deoxyribose- 5-phosphate at abasic sites near DSBs. This activity cleans the termini of abasic sites, a common form of nucleotide damage, preparing broken ends for ligation (PubMed:20383123). It may also possess 3'-5' DNA helicase activity, although this has not been confirmed in vivo, and its physiological significance remains unclear (PubMed:7957065). Beyond DNA repair, the protein contributes to telomere maintenance (PubMed:29490055). It is also implicated in transcriptional regulation, acting as a cofactor for various transcription factors (PubMed:12145306, PubMed:8621488). It 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). Can also bind RNAs and recruits PRKDC to a wide range of cellular RNAs, including the U3 small nucleolar RNA, playing a role in the biogenesis of ribosomal RNAs (PubMed:32103174). Additionally, it negatively regulates apoptosis by interacting with BAX, sequestering it from the mitochondria, and may possess deubiquitination activity targeting BAX (PubMed:15023334, PubMed:18362350, PubMed:35545041).
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).

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