

Anti-Ku70 (pS5) Antibody

Rabbit polyclonal antibody to Ku70 (pS5)
Catalog # AP60527

Product Information

Application	WB, IHC
Primary Accession	P12956
Other Accession	P23475
Reactivity	Human, Mouse, Rat, Monkey
Host	Rabbit
Clonality	Polyclonal
Calculated MW	69843

Additional Information

Gene ID	2547
Other Names	G22P1; X-ray repair cross-complementing protein 6; 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
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the N-term region of human Ku70 (pS5). The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C. Stable for 12 months from date of receipt

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](#)).

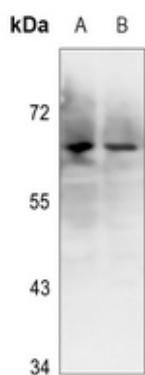
Cellular Location

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

Background

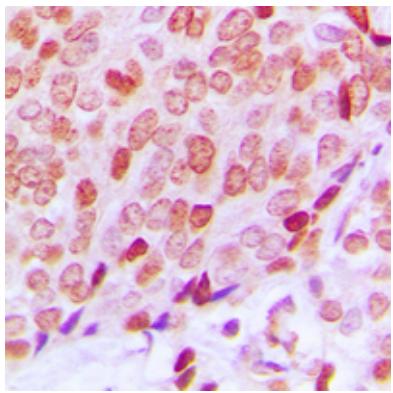
KLH-conjugated synthetic peptide encompassing a sequence within the N-term region of human Ku70 (pS5). The exact sequence is proprietary.

Images



Western blot analysis of Ku70 (pS5) expression in H1688 (A), H446 (B) whole cell lysates.

Immunohistochemical analysis of Ku70 (pS5) staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



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