

# Goat anti-Ku70 / G22P1 Antibody

Peptide-affinity purified goat antibody

Catalog # AF4528a

## Product Information

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|-------------------|--------------------------------------------------------------|
| Application       | FC, Pep-ELISA                                                |
| Primary Accession | <a href="#">P12956</a>                                       |
| Other Accession   | <a href="#">NP_001460.1</a> , <a href="#">NP_001275907.1</a> |
| Reactivity        | Human, Mouse, Rat, Dog                                       |
| Host              | Goat                                                         |
| Clonality         | Polyclonal                                                   |
| Clone Names       | XRCC6                                                        |
| Calculated MW     | 69843                                                        |

## Additional Information

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| Gene ID     | 2547                                                                                                                                                                                                                                                            |
| Other Names | G22P1; thyroid autoantigen 70kDa (Ku antigen); HGNC:4055; CTC75; CTCBF; KU70; ML8; TLAA; ATP-dependent DNA helicase II, 70 kDa subunit; CTC box binding factor 75 kDa subunit; OTTHUMP00000028581; thyroid autoantigen 70kD (Ku antigen); thyroid-lupus autoant |
| Dilution    | FC~~1:10~50 Pep-ELISA~~N/A                                                                                                                                                                                                                                      |
| Format      | Supplied at 0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin. Aliquot and store at -20°C. Minimize freezing and thawing.                                                                                                      |
| Storage     | Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.                                                                                                                        |
| Precautions | Goat anti-Ku70 / G22P1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.                                                                                                                                               |

## Protein Information

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| Name     | XRCC6 ( <a href="#">HGNC:4055</a> )                                                                                                                                                                                                                                                                                                                                               |
| 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.

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