Ku-70 Antibody – Polyclonal

PRODUCT OVERVIEW

Product Name	Ku-70, Polyclonal Antibody
Full Product Name	Ku-70 Polyclonal Antibody
Product Gene Name	anti-Ku-70 antibody
Clonality	Polyclonal
Molecular Weight	65,149 Da
OMIM	152690
3D Structure	ModBase 3D Structure for P12956
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for anti-Ku-70 antibody	MBS8526312 is an antibody targeting Ku-70. Also known as Ku-70 Polyclonal Antibody.
Other Notes	Small volumes of anti-Ku-70 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Ku-70. It may not necessarily be applicable to this product.

NCBI GI #	573014815
NCBI GeneID	2547
NCBI Accession #	NP_001275905.1
UniProt Primary Accession #	P12956
UniProt Secondary Accession #	Q6FG89; Q9UCQ2; Q9UCQ3; B1AHC8
UniProt Related Accession #	P12956
GenBank Nucleotide #	NM_001288976.1
NCBI Official Full Name	X-ray repair cross-complementing protein 6 isoform 1
NCBI Official Synonym Full Names	X-ray repair cross complementing 6
NCBI Official Symbol	XRCC6
NCBI Official Synonym Symbols	ML8; KU70; TLAA; CTC75; CTCBF; G22P1
UniProt Protein Name	X-ray repair cross-complementing protein 6
UniProt Synonym Protein Names	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
UniProt Gene Name	XRCC6
UniProt Synonym Gene Names	G22P1; 5'-dRP lyase Ku70; CTC75; CTCBF; Ku70; TLAA

NCBI Protein Information	X-ray repair cross-complementing protein 6
NCBI Summary for Ku-70	The p70/p80 autoantigen is a nuclear complex consisting of two subunits with molecular masses of approximately 70 and 80 kDa. The complex functions as a single-stranded DNA-dependent ATP-dependent helicase. The complex may be involved in the repair of nonhomologous DNA ends such as that required for double-strand break repair, transposition, and V(D)J recombination. High levels of autoantibodies to p70 and p80 have been found in some patients with systemic lupus erythematosus. [provided by RefSeq, Jul 2008]
UniProt Comments for Ku-70	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.
Research Articles on Ku-70	**1.** The DNA binding domain of Ku70 was essential for formation of the Ku70-STING complex. Knocking down STING in primary human macrophages inhibited their ability to produce IFN-lambda1 in response to transfection with DNA or infection with the DNA virus HSV-2 (herpes simplex virus-2). Together, these data suggest that STING mediates the Ku70-mediated IFN-lambda1 innate immune response to exogenous DNA or DNA virus infection.
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