Ku70-Ku80 Heterodimer Protein, Human (sf9, His)

Cat. No.:	HY-P73846
Synonyms:	XRCC5-XRCC6 Heterodimer Protein; X-ray repair cross-complementing protein
Species:	Human
Source:	Sf9 insect cells
Accession:	P13010 (M1-I732)&P12956 (M1-D609)
Gene ID:	7520&2547
Molecular Weight:	Approximately 70&85 kDa

PROPERTIES

Appearance	Solution
Formulation	Supplied as a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	The Ku70 is a single-stranded DNA-dependent ATP-dependent helicase crucial for DNA non-homologous end joining (NHEJ), playing a central role in double-strand break repair and V(D)J recombination. Functioning as a DNA helicase II complex, it exhibits a cell cycle-dependent preference for fork-like ends of double-stranded DNA and operates in the 3'-5' direction. During NHEJ, the heterodimer recognizes and binds to broken DNA ends, protecting them from further resection. It acts as a regulatory subunit of the DNA-dependent protein kinase complex (DNA-PK), significantly enhancing the catalytic subunit PRKDC's affinity to DNA. The Ku70 is implicated in stabilizing broken DNA ends and bringing them together for the subsequent ligation step in NHEJ. Additionally, it may serve as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), facilitating the elimination of 5' deoxyribose-5-phosphate at abasic sites near double-strand breaks. Beyond its role in DNA repair, the heterodimer participates in the regulation of transcription, osteocalcin expression, and the early steps of ribosome assembly. It also forms complexes involved in the innate immune response and associates with various interacting partners, highlighting its multifaceted functions in cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA