

Recombinant Human XRCC6 Protein (M1-D609), Flag tagged

Cat. No. XRCC6-1204H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human XRCC6(M1-D609 end)-Flag Protein was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	M1-D609
Description	Single-stranded DNA-dependent ATP-dependent helicase that plays a key role in DNA non-homologous end joining (NHEJ) by recruiting DNA-PK to DNA. Required for double-strand break repair and V(D)J recombination. Also has a role in chromosome translocation. 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. During NHEJ, the XRCC5-XRRC6 dimer performs the recognition step: it recognizes and binds to the broken ends of the DNA and protects them from further resection. Binding to DNA may be mediated by XRCC6. The XRCC5-XRRC6 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-XRRC6 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. 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

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damage commonly associated with strand breaks, before such broken ends can be joined. The XRCC5-XRCC6 dimer together with APEX1 acts as a negative regulator of transcription. In association with NAA15, the XRCC5-XRCC6 dimer binds to the osteocalcin promoter and activates osteocalcin expression. 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.

Form	Liquid
Endotoxin	< 0.01 EU per µg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	XRCC6 X-ray repair complementing defective repair in Chinese hamster cells 6 [Homo sapiens (human)]
Official Symbol	XRCC6

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Synonyms

XRCC6; X-ray repair complementing defective repair in Chinese hamster cells 6; G22P1, thyroid autoantigen 70kD (Ku antigen), thyroid autoantigen 70kDa (Ku antigen); X-ray repair cross-complementing protein 6; D22S671; D22S731; Ku autoantigen; 70kDa; KU70; ML8; 5-dRP lyase Ku70; Ku autoantigen, 70kDa; DNA repair protein XRCC6; Ku autoantigen p70 subunit; 70 kDa subunit of Ku antigen; thyroid-lupus autoantigen p70; lupus Ku autoantigen protein p70; 5-deoxyribose-5-phosphate lyase Ku70; CTC box binding factor 75 kDa subunit; CTC box-binding factor 75 kDa subunit; thyroid autoantigen 70kD (Ku antigen); ATP-dependent DNA helicase 2 subunit 1; thyroid autoantigen 70kDa (Ku antigen); ATP-dependent DNA helicase II 70 kDa subunit; ATP-dependent DNA helicase II, 70 kDa subunit; TLAA; CTC75; CTCBF; G22P1;

Gene ID

[2547](#)

mRNA Refseq

[NM_001469](#)

Protein Refseq

[NP_001460](#)

MIM

[152690](#)

UniProt ID

[P12956](#)

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