

# Recombinant Human X-ray repair cross-complementing protein 5(XRCC5),partial

Catalog No: #AP70924

Package Size: #AP70924-1 20ug #AP70924-2 100ug #AP70924-3 1mg

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## Description

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| Product Name          | Recombinant Human X-ray repair cross-complementing protein 5(XRCC5),partial                                                                                                                                                                                                                                                                                                                     |
| Host Species          | E.coli                                                                                                                                                                                                                                                                                                                                                                                          |
| Purification          | Greater than 90% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                     |
| Immunogen Description | Expression Region:251-455aaSequence Info:Partial                                                                                                                                                                                                                                                                                                                                                |
| Other Names           | 86KDA subunit of Ku antigen;ATP-dependent DNA helicase 2 subunit 2ATP-dependent DNA helicase II<br>80KDA subunitCTC box-binding factor 85KDA subunit ;CTC85 ;CTCBFDNA repair protein<br>XR;CC5Ku80Ku86Lupus Ku autoantigen protein p86Nuclear factor IVThyroid-lupus autoantigen ;TLAAX-ray<br>repair complementing defective repair in Chinese hamster cells 5 (double-strand-break rejoining) |
| Accession No.         | P13010                                                                                                                                                                                                                                                                                                                                                                                          |
| Calculated MW         | 27.4 kDa                                                                                                                                                                                                                                                                                                                                                                                        |
| Tag Info              | N-terminal 6xHis-tagged                                                                                                                                                                                                                                                                                                                                                                         |
| Target Sequence       | LTIGSNLSIRIAAYKSILQERVKKTWTVVDAKTLKKEDIQKETVYCLNDDDETEVLKEDIQGFYRGSDIVPFKSKVD<br>EEQMKYKSEGKCFSVLGFCKSSQVQRRFFMGNQVLKVFAARDDEAAVALSSLIHALDDLDMVAIVRYAYDK<br>RANPQVGVAFPKIHNYECLVYVQLPFMEDLRQYMFSSLKNSKKYAPTEAQLNAVD                                                                                                                                                                             |
| Formulation           | Tris-based buffer50% glycerol                                                                                                                                                                                                                                                                                                                                                                   |
| Storage               | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.<br><br>Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |

## Background

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 XRCC5. 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. In association with NAA15, the XRCC5,6 dimer binds to the osteocalcin promoter and activates osteocalcin expression. The XRCC5,6 dimer 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. XRCC5 probably acts as the catalytic subunit of 5'-dRP activity, and 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.

## References

Complete sequencing and characterization of 21,243 full-length human cDNAs.Ota T., Suzuki Y., Nishikawa T., Otsuki T., Sugiyama T., Irie R., Wakamatsu A., Hayashi K., Sato H., Nagai K., Kimura K., Makita H., Sekine M., Obayashi M., Nishi T., Shibahara T., Tanaka T., Ishii S. , Yamamoto

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Note: This product is for in vitro research use only and is not intended for use in humans or animals.