

**XRCC4 Antibody (Center)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP18904b****Specification**

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**XRCC4 Antibody (Center) - Product Information**

Application	WB,E
Primary Accession	<a href="#">O13426</a>
Other Accession	<a href="#">NP_003392.1</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	38287
Antigen Region	205-234

**XRCC4 Antibody (Center) - Additional Information****Gene ID** 7518**Other Names**

DNA repair protein XRCC4, X-ray repair cross-complementing protein 4, XRCC4

**Target/Specificity**

This XRCC4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 205-234 amino acids from the Central region of human XRCC4.

**Dilution**

WB~~1:1000

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

XRCC4 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**XRCC4 Antibody (Center) - Protein Information****Name** XRCC4 {ECO:0000303|PubMed:8548796, ECO:0000312|HGNC:HGNC:12831}**Function** [DNA repair protein XRCC4]: DNA non-homologous end joining (NHEJ) core factor,

required for double-strand break repair and V(D)J recombination (PubMed:[10757784](#), PubMed:[10854421](#), PubMed:[12517771](#), PubMed:[16412978](#), PubMed:[17124166](#), PubMed:[17290226](#), PubMed:[22228831](#), PubMed:[25597996](#), PubMed:[25742519](#), PubMed:[25934149](#), PubMed:[26100018](#), PubMed:[26774286](#), PubMed:[8548796](#)). Acts as a scaffold protein that regulates recruitment of other proteins to DNA double-strand breaks (DSBs) (PubMed:[15385968](#), PubMed:[20852255](#), PubMed:[26774286](#), PubMed:[27437582](#)). Associates with NHEJ1/XLF to form alternating helical filaments that bridge DNA and act like a bandage, holding together the broken DNA until it is repaired (PubMed:[21768349](#), PubMed:[21775435](#), PubMed:[22287571](#), PubMed:[26100018](#), PubMed:[27437582](#), PubMed:[28500754](#)). The XRCC4-NHEJ1/XLF subcomplex binds to the DNA fragments of a DSB in a highly diffusive manner and robustly bridges two independent DNA molecules, holding the broken DNA fragments in close proximity to one other (PubMed:[27437582](#)). The mobility of the bridges ensures that the ends remain accessible for further processing by other repair factors (PubMed:[27437582](#)). Plays a key role in the NHEJ ligation step of the broken DNA during DSB repair via direct interaction with DNA ligase IV (LIG4): the LIG4-XRCC4 subcomplex reseals the DNA breaks after the gap filling is completed (PubMed:[10757784](#), PubMed:[10854421](#), PubMed:[12517771](#), PubMed:[17290226](#), PubMed:[19837014](#), PubMed:[9242410](#)). XRCC4 stabilizes LIG4, regulates its subcellular localization and enhances LIG4's joining activity (PubMed:[10757784](#), PubMed:[10854421](#), PubMed:[12517771](#), PubMed:[17290226](#), PubMed:[21982441](#), PubMed:[22228831](#), PubMed:[9242410](#)). Binding of the LIG4-XRCC4 subcomplex to DNA ends is dependent on the assembly of the DNA-dependent protein kinase complex DNA-PK to these DNA ends (PubMed:[10757784](#), PubMed:[10854421](#)). Promotes displacement of PNKP from processed strand break termini (PubMed:[20852255](#), PubMed:[28453785](#)).

**Cellular Location**

Nucleus. Chromosome. Note=Localizes to site of double-strand breaks.

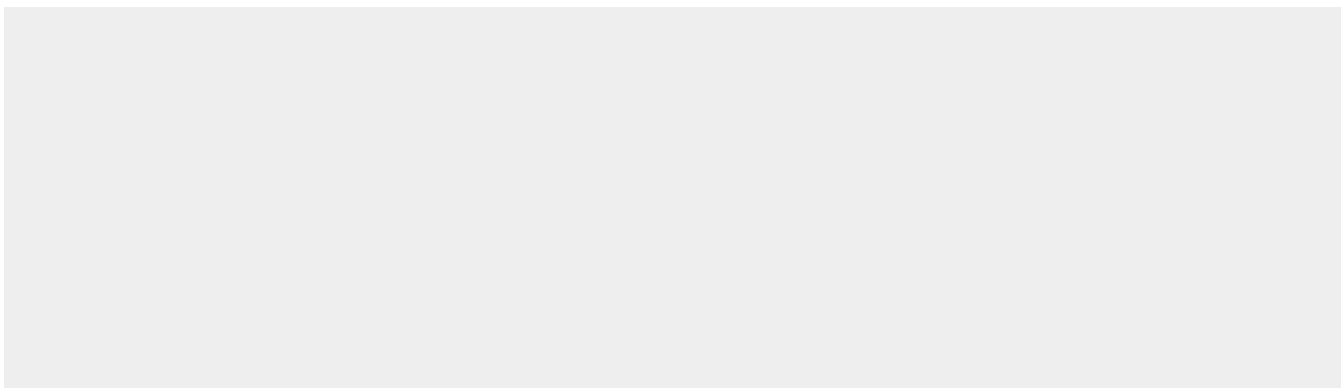
**Tissue Location**

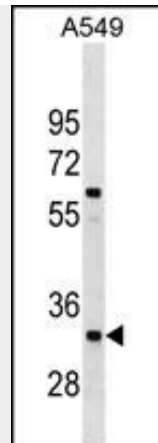
Widely expressed..

**XRCC4 Antibody (Center) - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**XRCC4 Antibody (Center) - Images**



XRCC4 Antibody (Center)(Cat. #AP18904b) western blot analysis in A549 cell line lysates (35ug/lane). This demonstrates the XRCC4 antibody detected the XRCC4 protein (arrow).

#### **XRCC4 Antibody (Center) - Background**

The protein encoded by this gene functions together with DNA ligase IV and the DNA-dependent protein kinase in the repair of DNA double-strand break by non-homologous end joining and the completion of V(D)J recombination events. The non-homologous end-joining pathway is required both for normal development and for suppression of tumors. This gene functionally complements XR-1 Chinese hamster ovary cell mutant, which is impaired in DNA double-strand breaks produced by ionizing radiation and restriction enzymes. Alternative transcription initiation and alternative splicing generates several transcript variants. [provided by RefSeq].

#### **XRCC4 Antibody (Center) - References**

Gomes, B.C., et al. Oncol. Rep. 24(4):1079-1085(2010)  
Liu, Y., et al. Carcinogenesis 31(10):1762-1769(2010)  
Briggs, F.B., et al. Am. J. Epidemiol. 172(2):217-224(2010)  
Liu, N., et al. Wei Sheng Yan Jiu 39(4):407-411(2010)  
Bau, D.T., et al. Anticancer Res. 30(7):2727-2730(2010)