

**Anti-XRCC1 Picoband Antibody**  
Catalog # ABO12861

**Specification**

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**Anti-XRCC1 Picoband Antibody - Product Information**

Application	WB, IHC-P, E
Primary Accession	<a href="#">P18887</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for XRCC1 detection. Tested with WB, IHC-P, Direct ELISA in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-XRCC1 Picoband Antibody - Additional Information**

**Gene ID** 7515

**Other Names**

DNA repair protein XRCC1, X-ray repair cross-complementing protein 1, XRCC1

**Application Details**

Western blot, 0.1-0.5 µg/ml  
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml  
Direct ELISA, 0.1-0.5 µg/ml

**Subcellular Localization**

Nucleus.

**Contents**

Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg NaN<sub>3</sub>.

**Immunogen**

E. coli-derived human XRCC1 recombinant protein (Position: E538-A633).

**Cross Reactivity**

No cross reactivity with other proteins.

**Storage**

**At -20°C; for one year. After r°Constitution, at 4°C; for one month. It°Can also be aliquotted and stored frozen at -20°C; for a longer time. Avoid repeated freezing and thawing.**

**Anti-XRCC1 Picoband Antibody - Protein Information**

**Name** XRCC1 {ECO:0000303|PubMed:2247054, ECO:0000312|HGNC:HGNC:12828}

### Function

Scaffold protein involved in DNA single-strand break repair by mediating the assembly of DNA break repair protein complexes (PubMed:<a href="http://www.uniprot.org/citations/11163244" target="\_blank">11163244</a>, PubMed:<a href="http://www.uniprot.org/citations/28002403" target="\_blank">28002403</a>). Negatively regulates ADP- ribosyltransferase activity of PARP1 during base-excision repair in order to prevent excessive PARP1 activity (PubMed:<a href="http://www.uniprot.org/citations/28002403" target="\_blank">28002403</a>, PubMed:<a href="http://www.uniprot.org/citations/34102106" target="\_blank">34102106</a>, PubMed:<a href="http://www.uniprot.org/citations/34811483" target="\_blank">34811483</a>). Recognizes and binds poly-ADP-ribose chains: specifically binds auto-poly-ADP-ribosylated PARP1, limiting its activity (PubMed:<a href="http://www.uniprot.org/citations/14500814" target="\_blank">14500814</a>, PubMed:<a href="http://www.uniprot.org/citations/34102106" target="\_blank">34102106</a>, PubMed:<a href="http://www.uniprot.org/citations/34811483" target="\_blank">34811483</a>).

### Cellular Location

Nucleus. Chromosome Note=Moves from the nucleoli to the global nuclear chromatin upon DNA damage (PubMed:28002403). Recruited to DNA damage sites following interaction with poly-ADP-ribose chains (PubMed:14500814)

### Tissue Location

Expressed in fibroblasts, retinal pigmented epithelial cells and lymphoblastoid cells (at protein level)

## Anti-XRCC1 Picoband Antibody - 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](#)

## Anti-XRCC1 Picoband Antibody - Images

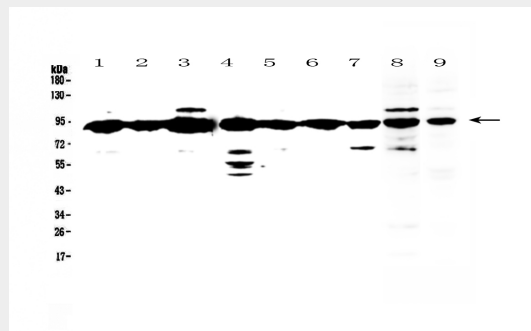


Figure 1. Western blot analysis of XRCC1 using anti-XRCC1 antibody (ABO12861). Electrophoresis

was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human Hela cell lysates, Lane 2: human placenta tissue lysates, Lane 3: human MCF-7 cell lysates, Lane 4: human HepG2 cell lysates, Lane 5: human A549 cell lysates, Lane 6: human SK-OV-3 cell lysates, Lane 7: human PANC-1 cell lysates, Lane 8: rat testis tissue lysates, Lane 9: mouse testis tissue lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-XRCC1 antigen affinity purified polyclonal antibody (Catalog # ABO12861) at 0.5  $\mu$ g/mL overnight at 4 $^{\circ}$ C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for XRCC1 at approximately 90KD. The expected band size for XRCC1 is at 69KD.

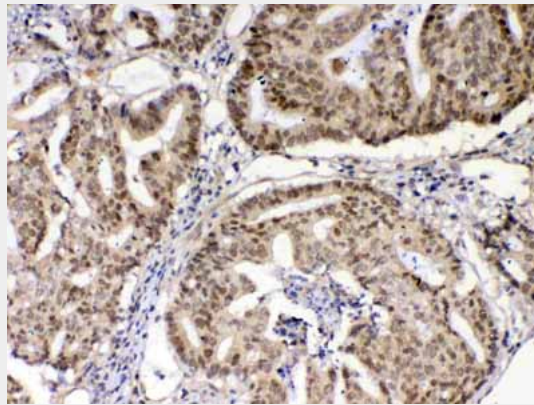


Figure 2. IHC analysis of XRCC1 using anti-XRCC1 antibody (ABO12861).XRCC1 was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 $\mu$ g/ml rabbit anti-XRCC1 Antibody (ABO12861) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



Figure 3. IHC analysis of XRCC1 using anti-XRCC1 antibody (ABO12861).XRCC1 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 $\mu$ g/ml rabbit anti-XRCC1 Antibody (ABO12861) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

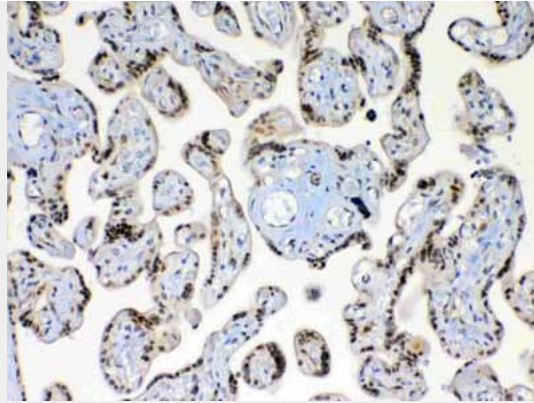


Figure 4. IHC analysis of XRCC1 using anti-XRCC1 antibody (ABO12861).XRCC1 was detected in paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 $\mu$ g/ml rabbit anti-XRCC1 Antibody (ABO12861) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

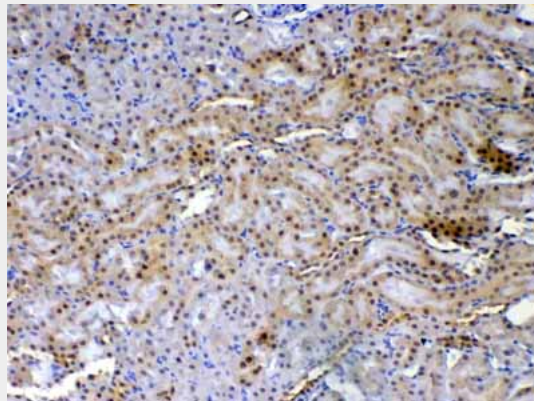


Figure 5. IHC analysis of XRCC1 using anti-XRCC1 antibody (ABO12861).XRCC1 was detected in paraffin-embedded section of rat kidney tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 $\mu$ g/ml rabbit anti-XRCC1 Antibody (ABO12861) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

#### **Anti-XRCC1 Picoband Antibody - Background**

XRCC1(X-RAY REPAIR, COMPLEMENTING DEFECTIVE, IN CHINESE HAMSTER, 1) is a DNA repair protein which complexes with DNA ligase III. The protein encoded by this gene is involved in the efficient repair of DNA single-strand breaks formed by exposure to ionizing radiation and alkylating agents. The XRCC1 gene is mapped to 19q13.31. The XRCC1 interacts with DNA ligase III, polymerase beta and poly (ADP-ribose) polymerase to participate in the base excision repair pathway. It may play a role in DNA processing during meiosis and recombination in germ cells. A rare microsatellite polymorphism in this gene is associated with cancer in patients of varying radiosensitivity. XRCC1 is phosphorylated *in vivo* and *in vitro* by CK2, and CK2 phosphorylation of XRCC1 on ser518, thr519, and thr523 largely determines aprataxin binding to XRCC1 through its FHA domain.