

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

Anti-XRCC1 Picoband Antibody - Product Information

Application	WB, IHC-P, E
Primary Accession	P18887
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 Na₂HPO₄, 0.05mg NaN₃.

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 reconstitution, 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:11163244, PubMed:28002403). Negatively regulates ADP- ribosyltransferase activity of PARP1 during base-excision repair in order to prevent excessive PARP1 activity (PubMed:28002403, PubMed:34102106, PubMed:34811483). Recognizes and binds poly-ADP-ribose chains: specifically binds auto-poly-ADP-ribosylated PARP1, limiting its activity (PubMed:14500814, PubMed:34102106, PubMed:34811483).

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

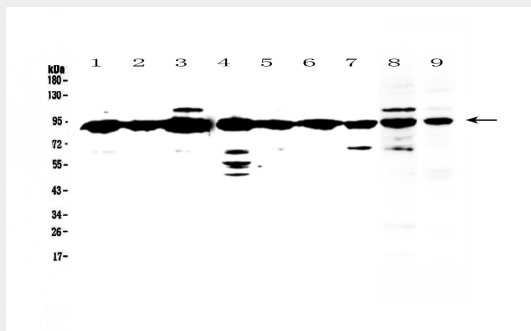


Figure 1. Western blot analysis of XRCC1 using anti-XRCC1 antibody (ABO12861). Electrophoresis

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 μ g/mL overnight at 4°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.

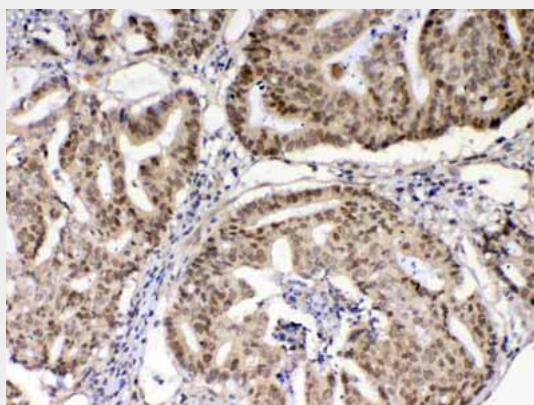


Figure 2. IHC analysis of XRCC1 using anti-XRCC1 antibody (ABO12861).XRCC1 was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat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

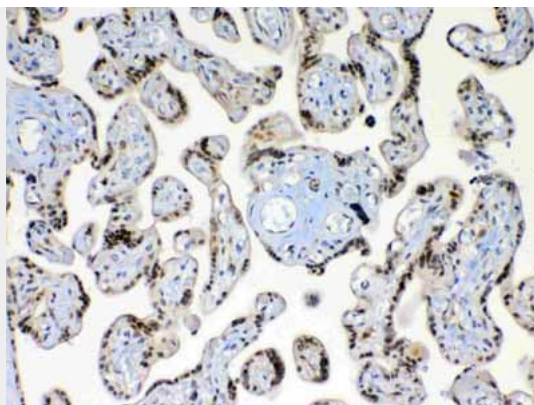


Figure 4. IHC analysis of XRCC1 using anti-XRCC1 antibody (ABO12861).XRCC1 was detected in paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ 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.

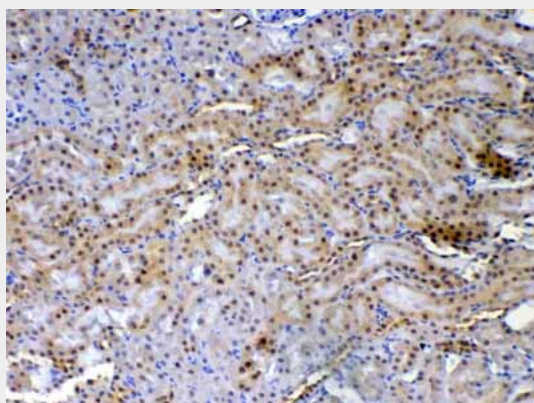


Figure 5. IHC analysis of XRCC1 using anti-XRCC1 antibody (ABO12861).XRCC1 was detected in paraffin-embedded section of rat kidney tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ 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 meogenesis 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.