

**Anti-XRCC1 Antibody**  
Catalog # ABO10953**Specification**

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**Anti-XRCC1 Antibody - Product Information**

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

**Description**

Rabbit IgG polyclonal antibody for DNA repair protein XRCC1(XRCC1) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.

**Reconstitution**

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

**Anti-XRCC1 Antibody - Additional Information**

**Gene ID** 7515

**Other Names**

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

**Calculated MW**

69477 MW KDa

**Application Details**

Immunocytochemistry , 0.5-1 µg/ml, Human, Mouse, Rat<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat<br>

**Subcellular Localization**

Nucleus . Accumulates at sites of DNA damage.

**Protein Name**

DNA repair protein XRCC1

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the N-terminus of human XRCC1(15-34aa QDSTHCAENLLKADTYRKWR), identical to the related mouse sequence, and different from the related rat sequence by one amino acid.

**Purification**

Immunogen affinity purified.

**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.**

**Sequence Similarities**

Contains 2 BRCT domains.

**Anti-XRCC1 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**

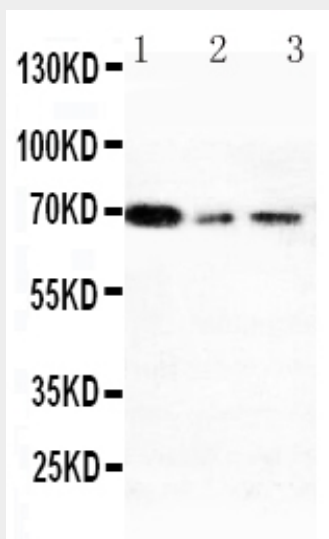
Expressed in fibroblasts, retinal pigmented epithelial cells and lymphoblastoid cells (at protein level)

**Anti-XRCC1 Antibody - Protocols**

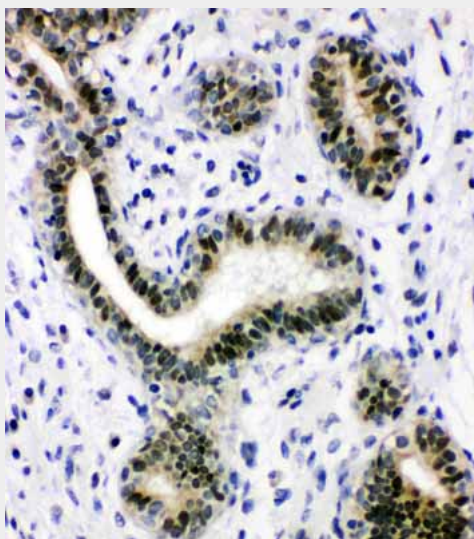
Provided below are standard protocols that you may find useful for product applications.

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

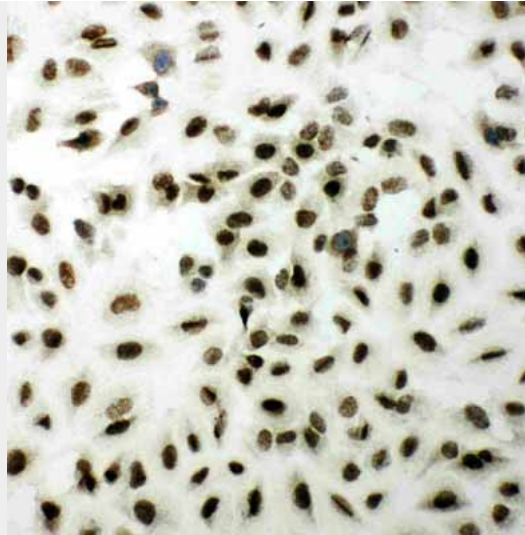
**Anti-XRCC1 Antibody - Images**



Anti-XRCC1 antibody, ABO10953, Western blotting Lane 1: 293T Cell Lysate Lane 2: A431 Cell Lysate Lane 3: HELA Cell Lysate



Anti-XRCC1 antibody, ABO10953, IHC(P) IHC(P): Human Mammary Cancer Tissue



Anti-XRCC1 antibody, ABO10953, ICCICC: A549 Cell

### **Anti-XRCC1 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.