

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

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**Anti-XRCC1 Antibody - Product Information**

Application	WB, IHC-P, 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**

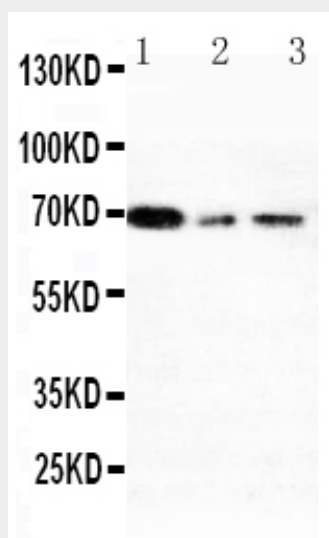
Expressed in fibroblasts, retinal pigmented epithelial cells and lymphoblastoid cells (at protein level)

**Anti-XRCC1 Antibody - Protocols**

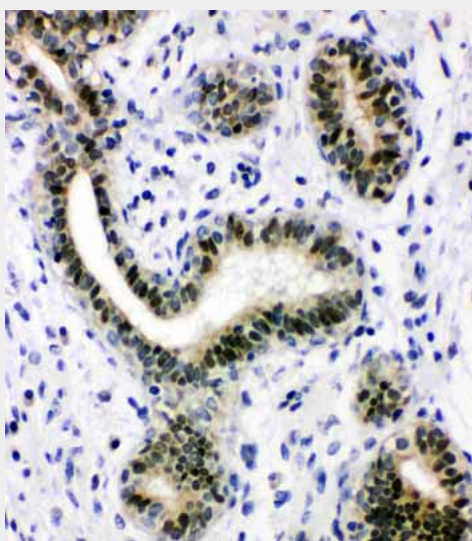
Provided below are standard protocols that you may find useful for product applications.

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

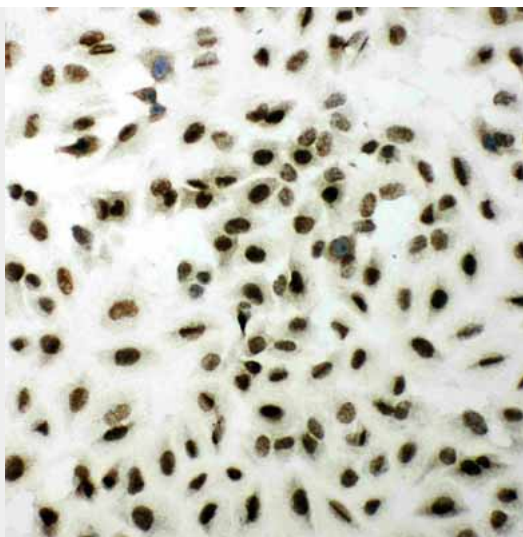
**Anti-XRCC1 Antibody - Images**



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 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.