

**XRCC1 Antibody (Center)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP5545C****Specification**

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**XRCC1 Antibody (Center) - Product Information**

Application	IF, FC, IHC-P, WB,E
Primary Accession	<a href="#">P18887</a>
Other Accession	<a href="#">NP_006288.2</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	69498
Antigen Region	407-435

**XRCC1 Antibody (Center) - Additional Information****Gene ID** 7515**Other Names**

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

**Target/Specificity**

This XRCC1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 407-435 amino acids from the Central region of human XRCC1.

**Dilution**

IF~~1:25

FC~~1:10~50

IHC-P~~1:50~100

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**

XRCC1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**XRCC1 Antibody (Center) - 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

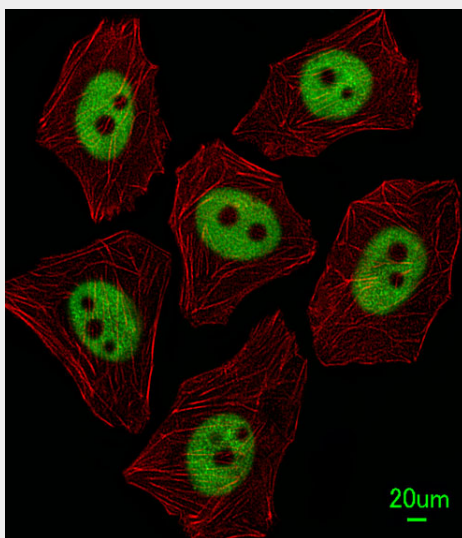
Expressed in fibroblasts, retinal pigmented epithelial cells and lymphoblastoid cells (at protein level)

### XRCC1 Antibody (Center) - Protocols

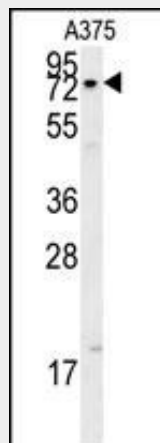
Provided below are standard protocols that you may find useful for product applications.

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

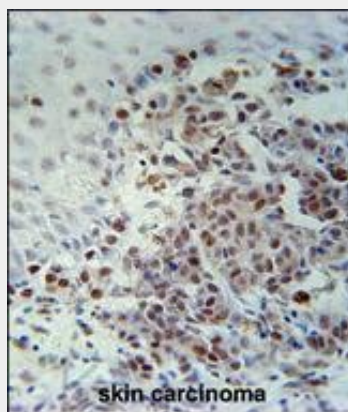
### XRCC1 Antibody (Center) - Images



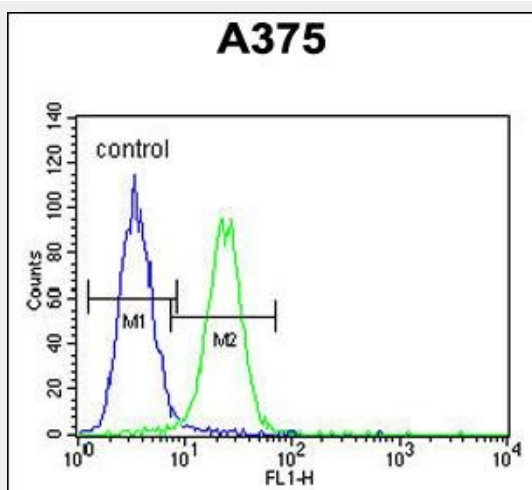
Immunofluorescent analysis of A549 cells, using XRCC1 Antibody (Center) (Cat. #AP5545c). AP5545c was diluted at 1:25 dilution. Alexa Fluor 488-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Dylight Fluor® 554 (red) conjugated Phalloidin (red).



XRCC1 Antibody (Center) (Cat. #AP5545c) western blot analysis in A375 cell line lysates (15ug/lane). This demonstrates the XRCC1 antibody detected the XRCC1 protein (arrow).



XRCC1 Antibody (Center) (Cat. #AP5545c) immunohistochemistry analysis in formalin fixed and paraffin embedded human skin carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the XRCC1 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



XRCC1 Antibody (Center) (Cat. #AP5545c) flow cytometric analysis of A375 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

#### **XRCC1 Antibody (Center) - Background**

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. This protein 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 Antibody (Center) - References**

Lamerdin, J.E., et al. Genomics 25(2):547-554(1995)  
Gyapay, G., et al. Nat. Genet. 7 (2 SPEC NO), 246-339 (1994) :  
Thompson, L.H., et al. Mol. Cell. Biol. 10(12):6160-6171(1990)  
Thompson, L.H., et al. Genomics 5(4):670-679(1989)