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XRCC1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5545C

Product Information

Application	WB, IHC-P, FC, IF, E
Primary Accession	P18887
Other Accession	NP_006288.2
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24559
Calculated MW	69498
Antigen Region	407-435

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	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 IF~~1:10~50 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.

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 fowwing interaction with poly-ADP-ribose chains (PubMed:14500814)
Tissue Location	Expressed in fibroblasts, retinal pigmented epithelial cells and lymphoblastoid cells (at protein level)

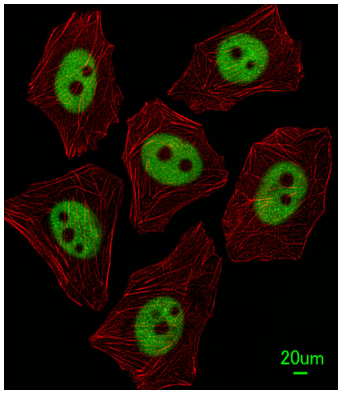
Background

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 meiogenesis and recombination in germ cells. A rare microsatellite polymorphism in this gene is associated with cancer in patients of varying radiosensitivity.

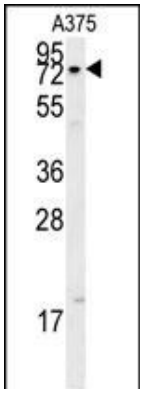
References

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)

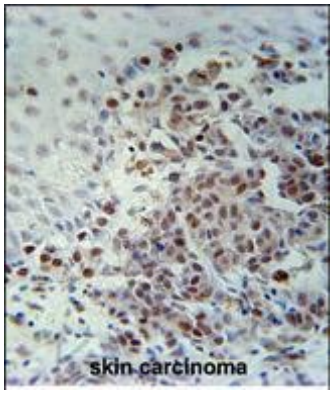
Images



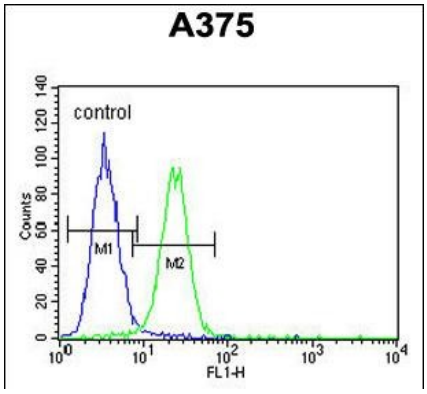
Immunofluorescent analysis of A549 cells, using XRCC1 Antibody (Center) (Cat. #AP5545c). AP5545c was diluted at 1:25 dilution. Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Dylight Fluor® 554 (red)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