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Anti-ERCC5 Antibody

Catalog # AP60280

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P28715
Reactivity	Human, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	133108

Additional Information

Gene ID	2073
Other Names	ERCM2; XPG; XPGC; DNA repair protein complementing XP-G cells; DNA excision repair protein ERCC-5; Xeroderma pigmentosum group G-complementing protein
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the N-term region of human ERCC5. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200), IF/IC (1/100 - 1/500) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200), IF/IC (1/100 - 1/500) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

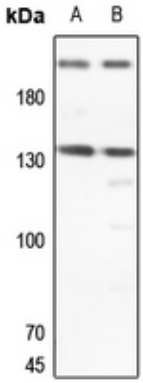
Name	ERCC5
Synonyms	ERCM2, XPG, XPGC
Function	Single-stranded structure-specific DNA endonuclease involved in DNA excision repair (PubMed:32522879, PubMed:32821917, PubMed:7651464, PubMed:8078765, PubMed:8090225, PubMed:8206890). Makes the 3'incision in DNA nucleotide excision repair (NER) (PubMed:32522879, PubMed:32821917, PubMed:8078765, PubMed:8090225). Binds and bends DNA repair bubble substrate and breaks base stacking at the single-strand/double-strand DNA junction of the DNA bubble (PubMed:32522879). Plays a role in base excision repair (BER) by promoting the binding of DNA glycosylase NTHL1 to its substrate and increasing NTHL1 catalytic activity that removes oxidized pyrimidines from DNA (PubMed:9927729). Involved in transcription-coupled nucleotide excision

repair (TCR) which allows RNA polymerase II-blocking lesions to be rapidly removed from the transcribed strand of active genes (PubMed:16246722). Functions during the initial step of TCR in cooperation with ERCC6/CSB to recognized stalled RNA polymerase II (PubMed:16246722). Also, stimulates ERCC6/CSB binding to the DNA repair bubble and ERCC6/CSB ATPase activity (PubMed:16246722). Required for DNA replication fork maintenance and preservation of genomic stability (PubMed:26833090, PubMed:32522879). Involved in homologous recombination repair (HRR) induced by DNA replication stress by recruiting RAD51, BRCA2, and PALB2 to the damaged DNA site (PubMed:26833090). In TFIIH stimulates the 5'-3' helicase activity of XPD/ERCC2 and the DNA translocase activity of XPB/ERCC3 (PubMed:31253769). During HRR, binds to the replication fork with high specificity and stabilizes it (PubMed:32522879). Also, acts upstream of HRR, to promote the release of BRCA1 from DNA (PubMed:26833090).

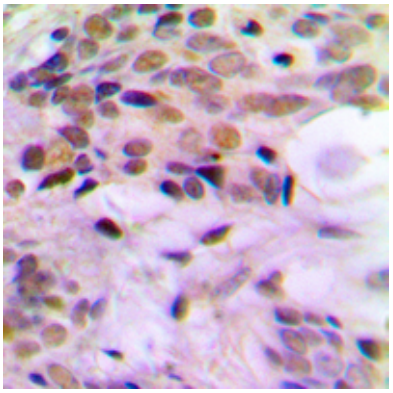
Cellular Location

Nucleus. Chromosome. Note=Colocalizes with RAD51 to nuclear foci in S phase (PubMed:26833090). Localizes to DNA double-strand breaks (DSB) during replication stress (PubMed:26833090). Colocalizes with BRCA2 to nuclear foci following DNA replication stress (PubMed:26833090).

Images

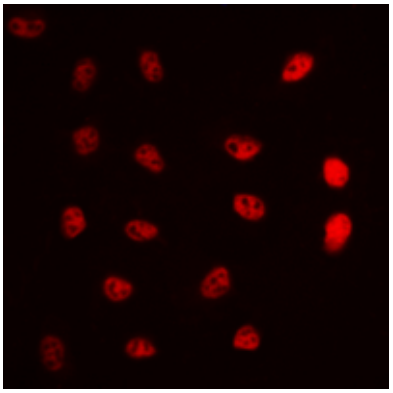


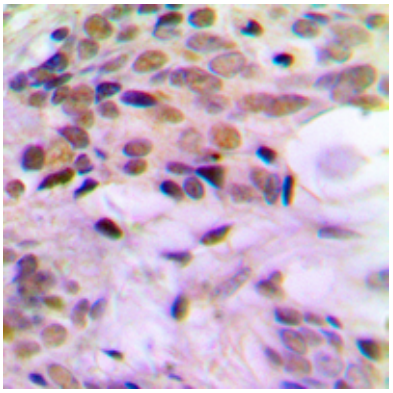
Western blot analysis of ERCC5 expression in Hela (A), H446 (B) whole cell lysates. (Predicted band size: 133 kD; Observed band size: 200; 133 kD)



Immunohistochemical analysis of ERCC5 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Immunofluorescent analysis of ERCC5 staining in A549 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark.





Immunohistochemical analysis of ERCC5 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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