abcam

ab129267

Anti-ERCC1 antibody [EPR7277]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR7277
Purification technique	Affinity purification Protein A
Concentration	0.748 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Predicted

Species	Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information ERCC1

Function	Isoform 1. Non-catalytic component of a structure-specific DNA repair endonuclease responsible for the 5'-incision during DNA repair. Responsible, in conjunction with SLX4, for the first step in the repair of interstrand cross-links (ICL). Participates in the processing of anaphase bridge-generating DNA structures, which consist in incompletely processed DNA lesions arising during S or G2 phase, and can result in cytokinesis failure. Also required for homology-directed repair (HDR) of DNA double-strand breaks, in conjunction with SLX4. Isoform 2. Not functional in the nucleotide excision repair pathway. Isoform 3. Not functional in the nucleotide excision repair pathway. Isoform 4. Not functional in the nucleotide excision repair pathway.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Species reactivity
Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ERCC1 also known as Excision Repair Cross-Complementation Group 1 is an essential protein in DNA repair mechanisms. Weighing approximately 36 kDa ERCC1 is expressed in a variety of tissues throughout an organism. It carries out its function by forming a heterodimer with XPF which is a structure-specific endonuclease playing a vital role in the nucleotide excision repair (NER) pathway that helps maintain genomic stability. The presence of an antibody like 8F1 can be helpful for detecting the ERCC1 protein expression in biological samples through techniques like ELISA.
Biological function summary	ERCC1 plays a significant role in the DNA damage repair process where it interacts with its partner protein XPF to excise damaged DNA. The ERCC1-XPF complex recognizes and cuts both single- and double-stranded DNA therefore enabling the removal of DNA lesions caused by UV radiation or chemical mutagens. This action prevents mutations by ensuring accurate DNA replication and transcription.
Pathways	The ERCC1 protein is primarily involved in the nucleotide excision repair (NER) and interstrand cross-link repair pathways. Within these pathways ERCC1 provides repair capacity to the cell maintaining the functionality of the DNA by partnering with proteins such as XPF and participating in cross-link repair mechanisms. By coordinating with proteins like XPA and RPA ERCC1 assists in identifying and binding the damaged DNA facilitating the recruitment of other repair proteins.

Associated diseases and disorders	The ERCC1 protein is linked to conditions such as Xeroderma Pigmentosum and Fanconi Anemia largely due to its critical role in DNA repair. Malfunctions or deficiencies in ERCC1 or its partner proteins can lead to compromised DNA repair resulting in susceptibility to cancer and other genomic instability disorders. ERCC1's relationship with proteins that partake in cell cycle regulation further emphasizes its impact on disease progression linking it with potential therapeutic targets for addressing these genetic disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

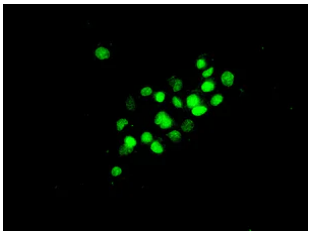
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

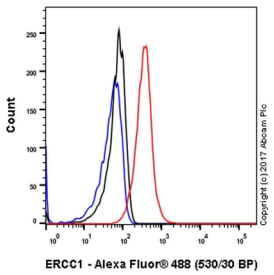
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-ERCC1 antibody [EPR7277] (ab129267)

ERCC1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ERCC1 antibody

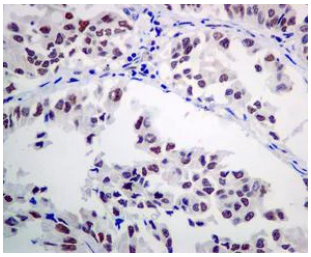
ab129267, at 1/100 dilution, staining ERCC1 in HepG2 cells by Immunofluorescence.



Flow Cytometry (Intracellular) - Anti-ERCC1 antibody [EPR7277] (ab129267)

ERCC1 Flow Cytometry (Intracellular) staining using rabbit Anti-ERCC1 antibody

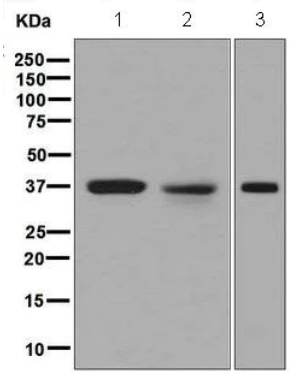
Intracellular Flow Cytometry analysis of HepG2 (human hepatocellular carcinoma) cells labeling ERCC1 with purified ab129267 at 1/80 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERCC1 antibody [EPR7277] (ab129267)

ERCC1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ERCC1 antibody

Formalin-fixed, paraffin-embedded human lung carcinoma tissue stained for ERCC1 with ab129267 (1/100 dilution) in immunohistochemical analysis.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-ERCC1 antibody [EPR7277] (ab129267)

All lanes:
Western blot - Anti-ERCC1 antibody [EPR7277] (ab129267) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

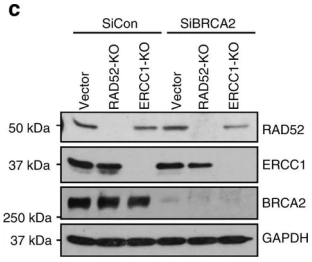
Lane 3:
SKBR-3 cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-rabbit HRP

Predicted band size: 33 kDa

Observed band size: 36 kDa



Western blot - Anti-ERCC1 antibody [EPR7277] (ab129267)

ERCC1 western blot using anti-ERCC1 antibody [EPR7277] ab129267. Publication image and figure legend from Han, J., Ruan, C., et al., 2017, Nat Commun, PubMed 29133916.

ab129267 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for

Image collected and cropped by CiteAb under a CC-BY license from the publication

ab129267 please see the product overview.

SSA is not responsible for gross genomic instability in BRCA2-depleted cells. a Schematic representation of the EGFP-based SSA reporter assay. b BRCA2 depletion leads to an increased SSA frequency. Wild-type, RAD52-, or ERCC1-deficient U2OS SSA-EGFP cells were transfected with control siRNA or siRNA against BRCA2. Twenty-four hours post transfection, cells were electroporated with pCBASce plasmid. After 48 h, the percentage of GFP-positive cells was determined by FACS. Results represent mean ± SEM of three independent experiments. c Knockdown/knockout efficiency was confirmed by western blot. d Loss of RAD52 or ERCC1 was unable to reverse gross genomic instability in BRCA2-depleted cells. Wild-type, RAD52-, or ERCC1-deficient HeLa cells were transfected with control siRNA or siRNA against BRCA2. Forty-eight hours post transfection, cells were exposed to 10 Gy IR and then allowed to recover for 2 or 24 h before being processed for immunofluorescence using antibodies against RPA2 and RAD51. Representative RPA2/RAD51 foci and DAPI-stained nuclei are shown. e Quantification of RPA2/RAD51 foci and nuclear fragmentation. Data represent mean ± SEM of three independent experiments. Over 100 cells were counted in each experiment. Scale bar, 10 μm

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.