abcam

ab189917

Anti-XLF antibody [EPR15882-36] - C-terminal

Recombinant | RabMAb | KO Validated

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	EPR15882-36
Purification technique	Affinity purification Protein A
Concentration	0.326 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

ICC/IF

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Not recommended

Species	Mouse, Rat

Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/60
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information NHEJ1

Function	DNA repair protein involved in DNA non-homologous end joining (NHEJ); it is required for double-strand break (DSB) repair and V(D)J recombination and is also involved in telomere maintenance (PubMed:16439204, PubMed:16439205, PubMed:17317666, PubMed:17470781, PubMed:17717001, PubMed:18158905, PubMed:18644470, PubMed:20558749, PubMed:26100018, PubMed:28369633). Plays a key role in NHEJ by promoting the ligation of various mismatched and non-cohesive ends (PubMed:17470781, PubMed:17717001, PubMed:19056826). Together with PAXX, collaborates with DNA polymerase lambda (POLL) to promote joining of non-cohesive DNA ends (PubMed:25670504, PubMed:30250067). May act in concert with XRCC5-XRCC6 (Ku) to stimulate XRCC4-mediated joining of blunt ends and several types of mismatched ends that are non-complementary or partially complementary (PubMed:16439204, PubMed:16439205, PubMed:17317666, PubMed:17470781). In some studies, has been shown to associate with XRCC4 to form alternating helical filaments that bridge DNA and act

like a bandage, holding together the broken DNA until it is repaired (PubMed:21768349, PubMed:21775435, PubMed:22228831, PubMed:22287571, PubMed:26100018, PubMed:27437582, PubMed:28500754). Alternatively, it has also been shown that rather than forming filaments, a single NHEJ1 dimer interacts through both head domains with XRCC4 to promote the close alignment of DNA ends (By similarity). The XRCC4-NHEJ1/XLF subcomplex binds to the DNA fragments of a DSB in a highly diffusive manner and robustly bridges two independent DNA molecules, holding the broken DNA fragments in close proximity to one other (PubMed:27437582, PubMed:28500754). The mobility of the bridges ensures that the ends remain accessible for further processing by other repair factors (PubMed:27437582). Binds DNA in a length-dependent manner (PubMed:17317666, PubMed:18158905).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

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.

Supplementary info

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

Activity summary	The XLF protein also known as XRCC4-like factor plays an important role in DNA repair mechanisms. It weighs approximately 33 kDa and is expressed in various tissues with high levels noted in the thymus and testis. XLF functions as a part of the non-homologous end joining (NHEJ) pathway where it aids in the repair of DNA double-strand breaks. It acts by promoting the ligation of broken DNA ends often working closely with other proteins such as XRCC4 and DNA ligase IV.
Biological function summary	XLF participates in the critical process of maintaining genomic stability. It is part of the NHEJ complex alongside XRCC4 and DNA ligase IV ensuring efficient repair of DNA breaks. This repair process is essential for preventing genomic instability and protecting cells from deleterious mutations. XLF helps tether DNA ends together providing structural support necessary for effective repair and its function is vital for cell survival especially in rapidly dividing cells.
Pathways	This protein integrates into the NHEJ pathway a primary mechanism for repairing DNA double-strand breaks. XLF collaborates directly with other proteins like Ku70/80 and DNA-PKcs facilitating their functions in the DNA damage response. Additionally it plays a role in the V(D)J recombination process which is vital for the development of immune system diversity by allowing the rearrangement of variable (V) diversity (D) and joining (J) gene segments.
Associated diseases and disorders	XLF relates to severe combined immunodeficiency (SCID) and neurodegenerative disorders. XLF deficiencies can manifest as immunodeficiency due to impaired V(D)J recombination adversely affecting the immune response. It is also linked to neurodegeneration because proper DNA repair is important for neuronal survival. Other proteins in these contexts include DNA ligase IV which shows connection in supporting similar cellular functions and diseases.

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

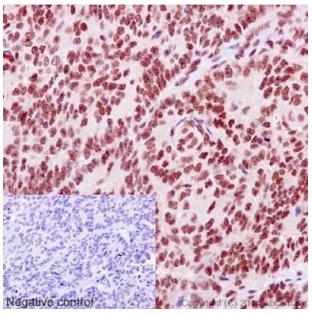
We do not recommend this combination. It is not covered by our product promise.

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.

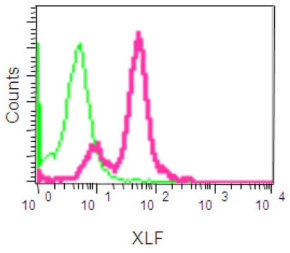
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917)

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

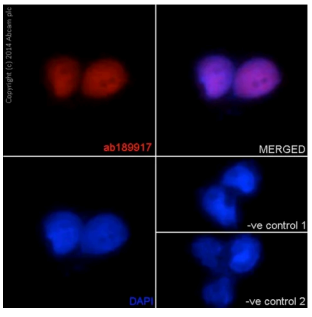
Immunohistochemical analysis of paraffin-embedded Human endometrial adenocarcinoma tissue labeling XLF with ab189917 at 1/250 with prediluted ImmunoHistoprobe(Ready to use) HRP Polymer for Rabbit IgG as secondary antibody.
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917)

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

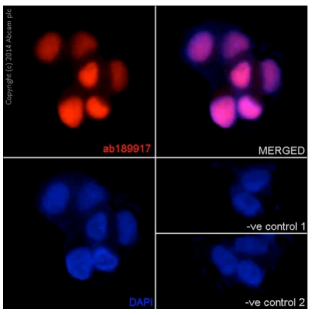
Intracellular flow cytometrical analysis of Ramos cells labeling XLF with ab189917 at 1/60 compared to a negative control cell. FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Immunocytochemistry/ Immunofluorescence - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917)

XLF Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-XLF antibody

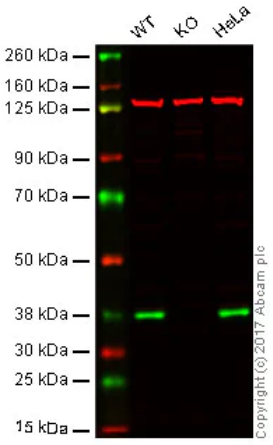
Immunofluorescent analysis of paraformaldehyde-fixed NCCIT cells labeling XLF with ab189917 at 1/250, Goat anti rabbit IgG (Alexa Fluor® 555) at 1/200 and DAPI staining (blue).



Immunocytochemistry/ Immunofluorescence - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917)

XLF Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-XLF antibody

Immunofluorescent analysis of paraformaldehyde-fixed HepG2 cells labeling XLF with ab189917 at 1/250, Goat anti rabbit IgG (Alexa Fluor® 555) at 1/200 and DAPI staining (blue).



Western blot - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917)

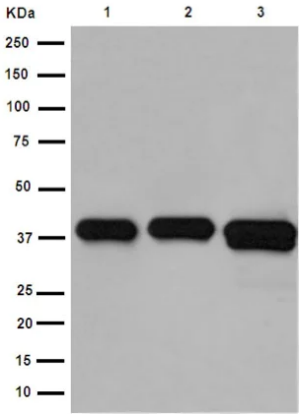
XLF Western blot staining using rabbit Anti-XLF antibody

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: XLF knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lanes 1 - 3: Merged signal (red and green). Green - ab189917 observed at 38 kDa. Red - loading control, ab18058, observed at 130 kDa.

ab189917 was shown to specifically react with XLF in wild type cells as signal was lost in XLF knockout cells. Wild-type and XLF knockout samples were subjected to SDS-PAGE. ab189917 and ab18058 (Mouse anti-Vinculin loading control) were incubated overnight at 4°C at 1/10000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917)

Predicted band size: 33 kDa



Western blot - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917)

All lanes:
Western blot - Anti-XLF antibody [EPR15882-36] - C-terminal (ab189917) at 1/10000 dilution

Lane 1:
Ramos cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

Lane 3:
HepG2 cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 33 kDa

Observed band size: 39 kDa

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