

# XLF (T-17): sc-79364

## BACKGROUND

XLF (XRCC4-like factor), also known as non-homologous end-joining factor 1 (NHEJ1) or cernunnos, is a 295 amino acid protein belonging to the XLF family. There are two main repair pathways for DNA double-strand breaks: homologous recombination (HR) and non-homologous end-joining (NHEJ). In the latter pathway, the Ku-70/Ku-86 heterodimer binds the DNA ends together and the DNA-PK catalytic subunits are recruited. Then the DNA ends are processed by DNA processing enzymes, such as Artemis. The binding is finalized through DNA Ligase IV, which acts in a complex with XRCC4 and XLF to stabilize the repair. Thus, it is believed that XLF interacts with DNA Ligase IV and XRCC4 to constitute the enzymatic core of the NHEJ machinery. Two named isoforms of XLF exist as a result of alternative splicing events.

## REFERENCES

1. Revy, P., Malivert, L. and de Villartay, J.P. 2006. Cernunnos-XLF, a recently identified non-homologous end-joining factor required for the development of the immune system. *Curr Opin Allergy Clin Immunol.* 6: 416-420.
2. Drouet, J., Frit, P., Delteil, C., de Villartay, J.P., Salles, B. and Calsou, P. 2006. Interplay between Ku, Artemis, and the DNA-dependent protein kinase catalytic subunit at DNA ends. *J. Biol. Chem.* 281: 27784-27793.
3. Hentges, P., Ahnesorg, P., Pitcher, R.S., Bruce, C.K., Kysela, B., Green, A.J., Bianchi, J., Wilson, T.E., Jackson, S.P. and Doherty, A.J. 2006. Evolutionary and functional conservation of the DNA non-homologous end-joining protein, XLF/Cernunnos. *J. Biol. Chem.* 281: 37517-37526.
4. Windhofer, F., Wu, W. and Iliakis, G. 2007. Low levels of DNA ligases III and IV sufficient for effective NHEJ. *J. Cell. Physiol.* 213: 475-483.
5. Zha, S., Alt, F.W., Cheng, H.L., Brush, J.W. and Li, G. 2007. Defective DNA repair and increased genomic instability in Cernunnos-XLF-deficient murine ES cells. *Proc. Natl. Acad. Sci. USA* 104: 4518-4523.
6. Tsai, C.J., Kim, S.A. and Chu, G. 2007. Cernunnos/XLF promotes the ligation of mismatched and noncohesive DNA ends. *Proc. Natl. Acad. Sci. USA* 104: 7851-7856.

## CHROMOSOMAL LOCATION

Genetic locus: NHEJ1 (human) mapping to 2q35; Nhej1 (mouse) mapping to 1 C3.

## SOURCE

XLF (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of XLF of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79364 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-79364 X, 200 µg/0.1 ml.

## APPLICATIONS

XLF (T-17) is recommended for detection of XLF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

XLF (T-17) is also recommended for detection of XLF in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for XLF siRNA (h): sc-76936, XLF siRNA (m): sc-76937, XLF shRNA Plasmid (h): sc-76936-SH, XLF shRNA Plasmid (m): sc-76937-SH, XLF shRNA (h) Lentiviral Particles: sc-76936-V and XLF shRNA (m) Lentiviral Particles: sc-76937-V.

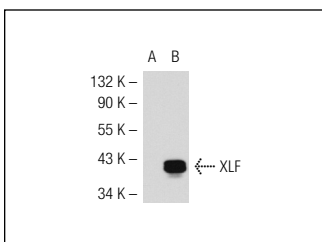
XLF (T-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of XLF: 33 kDa.

Molecular Weight (observed) of XLF: 40 kDa.

Positive Controls: XLF (m): 293T Lysate: sc-124664.

## DATA



XLF (T-17): sc-79364. Western blot analysis of XLF expression in non-transfected: sc-117752 (A) and mouse XLF transfected: sc-124664 (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **XLF (D-1): sc-166488** or **XLF (E-2): sc-393844**, our highly recommended monoclonal alternatives to XLF (T-17).