10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NHEJ1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14503b

Specification

NHEJ1 Antibody (C-term) - Product Information

Application	**WB,E**
Primary Accession	Q9H9Q4
Other Accession	NP_079058.1
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**33337**
Antigen Region	**268-296**

NHEJ1 Antibody (C-term) - Additional Information

Gene ID 79840

Other Names
Non-homologous end-joining factor 1, Protein cernunnos, XRCC4-like factor, NHEJ1, XLF

Target/Specificity
This NHEJ1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 268-296 amino acids from the C-terminal region of human NHEJ1.

Dilution
WB~~1:1000
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
NHEJ1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

NHEJ1 Antibody (C-term) - Protein Information

Name NHEJ1 {ECO:0000303|PubMed:17191205, ECO:0000312|HGNC:HGNC:25737}

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).

Cellular Location
Nucleus. Chromosome. Note=Localizes to site of double-strand breaks; recruitment is dependent on XRCC5-XRCC6 (Ku) heterodimer

Tissue Location
Ubiquitously expressed.

NHEJ1 Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

NHEJ1 Antibody (C-term) - Images

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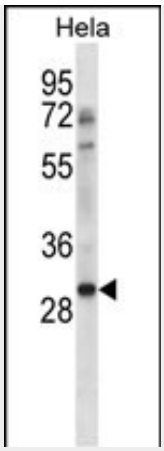

NHEJ1 Antibody (C-term) (Cat. #AP14503b) western blot analysis in Hela cell line lysates (35ug/lane).This demonstrates the NHEJ1 antibody detected the NHEJ1 protein (arrow).

NHEJ1 Antibody (C-term) - Background

Double-strand breaks in DNA result from genotoxic stresses and are among the most damaging of DNA lesions. This gene encodes a DNA repair factor essential for the nonhomologous end-joining pathway, which preferentially mediates repair of double-stranded breaks. Mutations in this gene cause different kinds of severe combined immunodeficiency disorders.

NHEJ1 Antibody (C-term) - References

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Andres, S.N., et al. Mol. Cell 28(6):1093-1101(2007)
Tsai, C.J., et al. Proc. Natl. Acad. Sci. U.S.A. 104(19):7851-7856(2007)