

KD-Validated Anti-Non-Homologous End Joining Factor 1 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1608**Specification****KD-Validated Anti-Non-Homologous End Joining Factor 1 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	Q9H9Q4
Reactivity	Human
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 33 kDa , observed , 39 kDa KDa
Gene Name	NHEJ1
Aliases	Non-Homologous End Joining Factor 1; XLF; XRCC4-Like Factor; Non-Homologous End-Joining Factor 1; Nonhomologous End-Joining Factor 1; Protein Cernunnos; Cernunnos; FLJ12610
Immunogen	A synthesized peptide derived from human XLF

KD-Validated Anti-Non-Homologous End Joining Factor 1 Rabbit Monoclonal Antibody - Additional Information

Gene ID	79840
Other Names	
Non-homologous end-joining factor 1, Protein cernunnos, XRCC4-like factor, NHEJ1 {ECO:0000303 PubMed:17191205, ECO:0000312 HGNC:HGNC:25737}	

KD-Validated Anti-Non-Homologous End Joining Factor 1 Rabbit Monoclonal Antibody - 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)

target="_blank">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 (POL) 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.

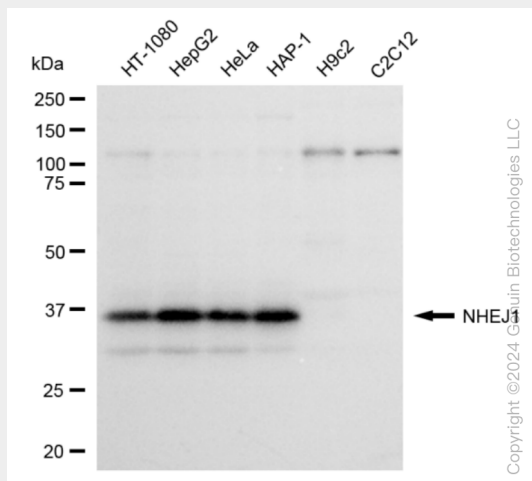
KD-Validated Anti-Non-Homologous End Joining Factor 1 Rabbit Monoclonal Antibody - Protocols

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

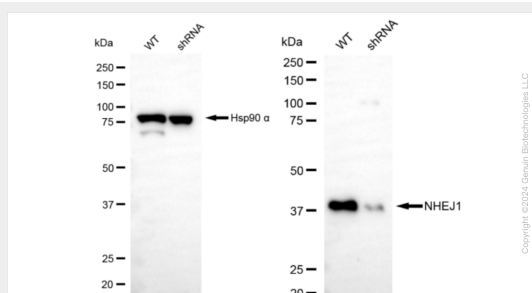
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

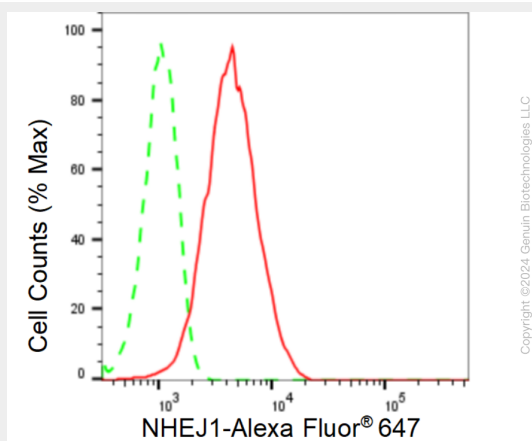
KD-Validated Anti-Non-Homologous End Joining Factor 1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-NHEJ1 antibody (Cat#AGI1608). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-NHEJ1 antibody (Cat#AGI1608, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

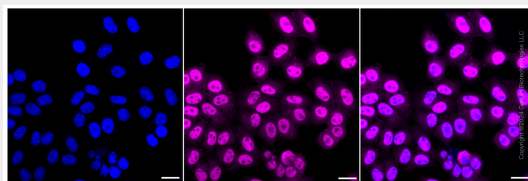


Western blotting analysis using anti-NHEJ1 antibody (Cat#AGI1608). NHEJ1 expression in wild type (WT) and NHEJ1 shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-NHEJ1 antibody (Cat#AGI1608, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of NHEJ1 expression in HepG2 cells using NHEJ1 antibody (Cat#AGI1608,

1:2,000). Green, isotype control; red, NHEJ1.



Immunocytochemical staining of HepG2 cells with anti-NHEJ1 antibody (Cat#AGI1608, 1:1,000). Nuclei were stained blue with DAPI; NHEJ1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: High. Scale bar: 20 μ m.