

Rabbit anti-Human NELFE Polyclonal Antibody | anti-NELFE antibody

Anti-NELFE Antibody Picoband

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA127423	Rabbit	Human	ELISA, Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

NELFE; Polyclonal Antibody; Anti-NELFE Antibody Picoband; forkhead box K1; Forkhead box protein F1; Forkhead-related activator 1; FREAC-1; Forkhead-related protein FKHL5; Forkhead-related transcription factor 1; FOXF1; FKHL5; FREAC1; anti-NELFE antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Expressed in kidney.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
Applicable Applications for anti-NELFE antibody	ELISA, FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	E coli-derived human NELFE recombinant protein (Position: N262-D378).
Subcellular Localization	Nucleus
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross-reactivity with other proteins.
Protein Function	Transcriptional regulator involved in different processes such as glucose metabolism, aerobic glycolysis, muscle cell differentiation and autophagy. Recognizes and binds the forkhead DNA sequence motif (5'-GTAAACA-3') and can both act as a transcription activator or repressor, depending on the context. Together with FOXK2, acts as a key regulator of metabolic reprogramming towards aerobic glycolysis, a process in which glucose is converted to lactate in the presence of oxygen. Acts by promoting expression of enzymes for glycolysis (such as hexokinase-2 (HK2), phosphofructokinase, pyruvate kinase (PKLR) and lactate dehydrogenase), while suppressing further oxidation of pyruvate in the mitochondria by up-regulating pyruvate dehydrogenase kinases PDK1 and PDK4. Probably plays a role in gluconeogenesis during overnight fasting, when lactate from white adipose tissue and muscle is the main substrate. Involved in mTORC1-mediated metabolic reprogramming: in response to mTORC1 signaling, translocates into the nucleus and regulates the expression of genes associated with glycolysis and downstream anabolic pathways, such as HIF1A, thereby regulating glucose metabolism. Together with FOXK2, acts as a negative regulator of autophagy in skeletal muscle: in response to starvation, enters the nucleus, binds the promoters of autophagy genes and represses their expression, preventing proteolysis of skeletal muscle proteins. Acts as a transcriptional regulator of the myogenic progenitor cell population in skeletal muscle. Binds to the upstream enhancer region (CCAC box) of myoglobin (MB) gene, regulating the myogenic progenitor cell population. Promotes muscle progenitor cell proliferation by repressing the transcriptional activity of FOXO4, thereby inhibiting myogenic differentiation. Involved in remodeling processes of adult muscles that occur in response to physiological stimuli. Required to correct temporal orchestration of molecular and cellular events necessary for muscle repair. Represses myogenic differentiation by inhibiting MEFC activity. Positively regulates Wnt/beta-catenin signaling by translocating DVL into the nucleus. Reduces virus replication, probably by binding the interferon stimulated response element (ISRE) to promote antiviral gene expression.

Preparation and Storage

At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.

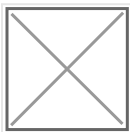
IMAGES



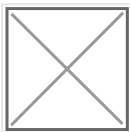
FCM/FACS (Flow Cytometry)
Figure 5. Flow Cytometry analysis of 293T cells using anti-NELFE antibody (AAA127423).Overlay histogram showing 293T cells stained with AAA127423 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-NELFE Antibody (AAA127423, 1ug/1x106 cells) for 30 min at 20 degree C. DyLight488 conjugated goat anti-rabbit IgG was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



IF (Immunofluorescence)
Figure 4. IF analysis of NELFE using anti-NELFE antibody (AAA127423) and anti-Beta Tubulin antibody (M01857-3).NELFE was detected in immunocytochemical section of A549 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-NELFE Antibody (AAA127423) and mouse anti-Beta Tubulin antibody (M01857-3) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) and DyLight488 Conjugated Goat Anti-Mouse IgG (BA1126) were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



IHC (Immunohistochemisry)
Figure 3. IHC analysis of NELFE using anti-NELFE antibody (AAA127423).NELFE was detected in a paraffin-embedded section of human ovarian cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-NELFE Antibody (AAA127423) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.



IHC (Immunohiostchemistry)
Figure 2. IHC analysis of NELFE using anti-NELFE antibody (AAA127423).NELFE was detected in a paraffin-embedded section of human lung squamous cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-NELFE Antibody (AAA127423) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.



WB (Western Blot)
Figure 1. Western blot analysis of NELFE using anti-NELFE antibody (AAA127423).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human 293T whole cell lysates,Lane 2: human Hela whole cell lysates,Lane 3: human U20S whole cell lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NELFE antigen affinity purified polyclonal antibody (#AAA127423) at 0.5ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for NELFE at approximately 43 kDa. The expected band size for NELFE is at 43 kDa.

ADDITIONAL INFORMATION

Related Product Information for anti-NELFE antibody

The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.

Product Categories/Family for anti-NELFE antibody

Primary Antibodies; Cell Biology

References	1. Gibson, B. A., Zhang, Y., Jiang, H., Hussey, K. M., Shrimp, J. H., Lin, H., Schwede, F., Yu, Y., Kraus, W. L. Chemical genetic discovery of PARP targets reveals a role for PARP-1 in transcription elongation. Science 353: 45-50, 2016.2. Levi-Strauss, M., Carroll, M. C., Steinmetz, M., Meo, T. A previously undetected MHC gene with an unusual periodic structure. Science 240: 201-204, 1988.3. Narita, T., Yamaguchi, Y., Yano, K., Sugimoto, S., Chanarat, S., Wada, T., Kim, D., Hasegawa, J., Omori, M., Inukai, N., Endoh, M., Yamada, T., Handa, H. Human transcription elongation factor NELF: identification of novel subunits and reconstitution of the functionally active complex. Molec. Cell. Biol. 23: 1863-1873, 2003.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	1350554
NCBI GeneID	7936
UniProt Accession #	P18615; Q5JP74; Q5JP75; Q96F56; Q9NPK2; A2BE08; B4DUN1; B4DYX9
Molecular Weight	380
NCBI Official Full Name	Negative elongation factor E
NCBI Official Synonym Full Names	negative elongation factor complex member E
NCBI Official Symbol	NELFE
NCBI Official Synonym Symbols	RD; RDP; RDBP; D6S45; NELF-E
NCBI Protein Information	negative elongation factor E; nuclear protein; RD RNA binding protein; RD RNA-binding protein; RNA-binding protein RD; major histocompatibility complex gene RD; negative elongation factor polypeptide E
UniProt Protein Name	Negative elongation factor E
UniProt Gene Name	NELFE
UniProt Synonym Gene Names	RD; RDBP; NELF-E
UniProt Entry Name	NELFE_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.