

ELAC1 Antibody / Zinc phosphodiesterase ELAC protein 1 Antibody (FY13660)

Catalog No.	Formulation	Size
FY13660	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q9H777
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5 ug/ml
Limitations	This ELAC1 Antibody / Zinc phosphodiesterase ELAC protein 1 Antibody is intended for research use only.

ELAC1 Antibody by IHC in Human Liver Cancer Tissue. Immunohistochemistry analysis of ELAC1 expression in a paraffin-embedded section of human liver cancer tissue using ELAC1 Antibody. Brown DAB staining is observed in numerous tumor cells, primarily within the cytoplasm, with variable intensity across the tissue section. Hematoxylin counterstaining highlights the blue-purple nuclei. The distribution of immunoreactivity is heterogeneous, with some tumor cells showing stronger staining than neighboring cells.

ELAC1 Antibody by FCM in fixed HEL cells. Flow cytometry analysis of intracellular ELAC1 in HEL cells following fixation with 4% paraformaldehyde and permeabilization. Cells were incubated with ELAC1 Antibody at 1 ug per 1x10⁶ cells, followed by a Fluoro488-conjugated goat anti-rabbit IgG secondary antibody. The blue antibody-stained population is shifted to higher fluorescence intensity relative to the green rabbit IgG isotype control and red unstained control. This experiment used fixed, permeabilized cells and does not demonstrate live-cell surface staining.

ELAC1 Antibody by WB in human and rodent lysates. Western blot analysis using ELAC1 Antibody on a 10% SDS-PAGE gel. Lanes 1-6 contain K562, HeLa, PC-3, rat liver, mouse liver and NIH/3T3 lysates, respectively. A major immunoreactive band migrates near 47-50 kDa across all samples, consistent with the expected size of zinc phosphodiesterase ELAC protein 1. Stronger signals are visible in the liver lysates, but lane intensity alone should not be interpreted as quantitative expression. Additional high-molecular-weight bands are present in liver lanes; their identities are not established. Molecular weight markers are shown at left.

Description

ELAC1 Antibody / Zinc phosphodiesterase ELAC protein 1 Antibody targets ELAC1, a member of the metallo-beta-lactamase superfamily with a conserved zinc-dependent nuclease fold. ELAC proteins are related to tRNA 3'-end processing enzymes, but the two human family members differ in localization and biological roles. ELAC2 is the established long-form tRNA 3'-processing endonuclease, whereas ELAC1 is a shorter protein whose biochemical activities and physiological substrate preferences have been investigated separately. These differences make it important not to infer identical cellular functions from their shared ancestry.

Maturation of transfer RNA requires precise processing of precursor transcripts before they can participate in translation. Removal of extra nucleotides from precursor RNA ends is a tightly controlled process, because the mature tRNA must present the correct structure for aminoacylation and ribosomal decoding. The ELAC family contains catalytic motifs that coordinate metal ions and support phosphodiester bond cleavage. ELAC1 has been studied for its ability to act on RNA substrates, although the significance of particular activities under physiological conditions is less firmly defined than the canonical tRNA-processing role of ELAC2.

The metallo-beta-lactamase fold occurs in proteins with diverse functions, including nucleases and metabolic enzymes, so structural classification alone does not establish substrate identity. Characterizing ELAC1 requires attention to its active-site chemistry, RNA recognition, and potential differences from the larger ELAC2 protein. Such comparisons can reveal how related catalytic frameworks become adapted to distinct biological tasks. NSJ Bioreagents offers this ELAC1 Antibody to support examination of ELAC1 abundance and its relationship to RNA-processing pathways. Resolving its endogenous substrates and cellular partners would clarify whether ELAC1 has a specialized role in RNA metabolism beyond the activities demonstrated in biochemical systems.

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Application Notes

Working dilutions of the ELAC1 Antibody / Zinc phosphodiesterase ELAC protein 1 Antibody may require optimization according to the experimental protocol.

Immunogen

The ELAC1 Antibody was generated using e. coli-derived human ELAC1 recombinant protein (amino acids F35-D353).

Storage

After reconstitution, the ELAC1 Antibody may be stored at 4°C for up to one month. For longer storage, aliquot and freeze at -20°C for up to six months. Avoid repeated freezing and thawing.

Alternate Names

ELAC1 antibody, Zinc phosphodiesterase ELAC protein 1 antibody, elac ribonuclease Z 1 antibody, D29 antibody, Deleted in Ma29 antibody, elac homolog 1 (E. coli) antibody, Elac homolog protein 1 antibody, Ribonuclease Z 1 antibody, RNase Z 1 antibody, tRNA 3 endonuclease 1 antibody, tRNase Z 1 antibody

