

ELAC2 Antibody / Zinc phosphodiesterase ELAC protein 2 Antibody (FY13561)

Catalog No.	Formulation	Size
FY13561	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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Species Reactivity	Human, Mouse
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	Q9BQ52
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml Immunoprecipitation : 2ug per 500ug of lysate ELISA : 0.1-0.5 ug/ml
Limitations	The ELAC2 Antibody / Zinc phosphodiesterase ELAC protein 2 Antibody is available for research use only.

ELAC2 Antibody by IF in A549 cells. Immunofluorescence staining of A549 cells using Zinc phosphodiesterase ELAC protein 2 Antibody reveals predominantly nuclear green staining. Published studies document both nuclear and mitochondrial ELAC2 localization; the staining pattern shown here has not been assigned to a specific translation product. Target immunoreactivity is shown in green, with alpha-tubulin in red. Cells were treated with enzyme antigen retrieval reagent, blocked with 10% goat serum and incubated with primary antibody at 5 ug/mL overnight at 4oC. Fluorescent secondary antibodies were used for microscopy.

ELAC2 Antibody by IHC in mouse testis. Immunohistochemistry of formalin-fixed, paraffin-embedded mouse testis using Zinc phosphodiesterase ELAC protein 2 Antibody shows brown immunoreactivity within seminiferous tubules, including prominent nuclear staining in subsets of germ cells. Sections underwent heat-mediated antigen retrieval in EDTA buffer (pH 8.0), followed by blocking with 10% goat serum and incubation with primary antibody at 2 ug/mL overnight at 4oC. HRP-conjugated secondary antibody and DAB chromogen were used to visualize immunoreactivity, with blue nuclear counterstaining.

ELAC2 Antibody by WB in human cell lines. Western blot analysis using Zinc phosphodiesterase ELAC protein 2 Antibody detects a band near 92 kDa in HeLa (lane 1), HepG2 (lane 2), and MCF-7 (lane 3) whole-cell lysates. The observed migration agrees with the approximately 92 kDa expected molecular weight of ELAC2. Reduced lysates containing 30 ug protein per lane were separated by 10% SDS-PAGE and transferred to nitrocellulose. After blocking with 5% nonfat milk, membranes were incubated with primary antibody at 0.5 ug/mL overnight at 4oC, followed by HRP-conjugated secondary antibody and chemiluminescent detection.

ELAC2 Antibody by IHC in human brain. Immunohistochemistry of formalin-fixed, paraffin-embedded human brain using Zinc phosphodiesterase ELAC protein 2 Antibody shows widespread brown staining across neuropil and subsets of cell bodies. Sections underwent heat-mediated antigen retrieval in EDTA buffer (pH 8.0), followed by blocking with 10% goat serum and incubation with primary antibody at 2 ug/mL overnight at 4oC. HRP-conjugated secondary antibody and DAB chromogen were used to visualize immunoreactivity, with blue nuclear counterstaining.

ELAC2 Antibody by IP in HepG2 lysates. Immunoprecipitation using Zinc phosphodiesterase ELAC protein 2 Antibody enriches a band near 92 kDa from HepG2 whole-cell lysate. Lane 1 contains 30 ug input lysate; lane 2 is the rabbit IgG control immunoprecipitation; lane 3 contains immunoprecipitated material using 2 ug primary antibody and 500 ug lysate. Following transfer, ELAC2 was detected by Western blot with primary antibody at 0.5 ug/mL and an HRP-conjugated secondary antibody. A prominent immunoglobulin heavy-chain signal is visible in the immunoprecipitated lane.

Description

ELAC2 Antibody / Zinc phosphodiesterase ELAC protein 2 Antibody detects ELAC2, a zinc-dependent endoribonuclease that processes the 3-prime ends of precursor transfer RNAs. The enzyme is commonly described as RNase Z and removes trailer sequences after the encoded tRNA body. Correct tRNA maturation is essential because transfer RNAs must acquire appropriate termini before they can participate efficiently in protein synthesis.

ELAC2 is involved in RNA processing in both mitochondrial and nuclear contexts, with cellular localization and transcript handling shaped by protein targeting and isoform biology. In mitochondria, the enzyme contributes to the maturation of tRNAs released from long polycistronic transcripts. Mitochondrial RNA processing is closely coordinated with the production of RNAs required for respiratory-chain protein synthesis.

Biallelic pathogenic variants in ELAC2 have been associated with mitochondrial disease, including presentations involving hypertrophic cardiomyopathy, developmental impairment, and lactic acidosis. These findings are consistent with the importance of mitochondrial tRNA processing for oxidative phosphorylation, particularly in energy-demanding tissues. The severity and combination of clinical features can vary among affected individuals.

ELAC2 has also appeared in genetic studies of prostate cancer susceptibility, although interpretation of specific

associations requires care and should be separated from its established biochemical function in RNA maturation. At the molecular level, the central activity of ELAC2 remains endonucleolytic removal of tRNA 3-prime extensions. NSJ Bioreagents offers the ELAC2 Antibody in the context of RNA-processing and mitochondrial biology. An ELAC2 Antibody can support investigation of how tRNA maturation contributes to cellular protein synthesis and mitochondrial function.

Explore related research targets in our [Cell Biology Antibodies](#) collection.

Application Notes

The recommended approach is to establish the optimal working dilution of the ELAC2 Antibody / Zinc phosphodiesterase ELAC protein 2 Antibody through preliminary testing.

Immunogen

The ELAC2 Antibody was generated using e. coli-derived human ELAC2 recombinant protein (amino acids D313-Q826).

Storage

The ELAC2 Antibody is stable for up to one month at 4oC after reconstitution. For longer-term storage, aliquot and store at -20oC for up to six months. Do not repeatedly freeze and thaw.

Alternate Names

ELAC2 antibody, Zinc phosphodiesterase ELAC protein 2 antibody, elac ribonuclease Z 2 antibody, elac homolog 2 (E. coli) antibody, ElaC homolog protein 2 antibody, ELC2 antibody, HPC2 antibody, Ribonuclease Z 2 antibody, RNase Z 2 antibody, tRNA 3 endonuclease 2 antibody, tRNase Z 2 antibody