EXOG Antibody / Nuclease EXOG, mitochondrial Antibody (FY13628)

Catalog No.	Formulation	Size
FY13628	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Human
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 Na2HPO4.
UniProt	Q9Y2C4
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml ELISA: 0.1-0.5 ug/ml
Limitations	Intended solely for research purposes, this EXOG Antibody / Nuclease EXOG, mitochondrial Antibody is not for clinical use.

EXOG Antibody by IHC in human endometrial carcinoma. Immunohistochemistry of paraffin-embedded human endometrial carcinoma using Nuclease EXOG, mitochondrial Antibody shows prominent brown staining in glandular epithelial tumor structures with hematoxylin-counterstained nuclei. Heat-mediated antigen retrieval was performed using EDTA buffer at pH 8.0. Sections were blocked with goat serum and incubated with 2 ug/mL primary antibody overnight at 4oC, followed by HRP-conjugated secondary antibody and DAB visualization.

EXOG Antibody by IF in HeLa cells. Immunofluorescence analysis using Nuclease EXOG, mitochondrial Antibody reveals green fluorescence in nuclear and perinuclear regions, with visible nuclear enrichment in HeLa cells. Red alpha-tubulin counterstaining highlights the cytoskeleton. Cells were treated with enzyme-based antigen retrieval and incubated with 5 ug/mL primary antibody overnight at 4oC before fluorescent secondary antibody detection. The image depicts the observed staining pattern without establishing organelle-specific colocalization.

EXOG Antibody by WB in human cell lines. Western blot analysis using Nuclease EXOG, mitochondrial Antibody detects a prominent immunoreactive band consistent with the expected molecular weight of approximately 41 kDa. Lanes 1-4 contain HeLa, HepG2, Jurkat and U251 whole-cell lysates, respectively. Reduced samples containing 30 ug total protein per lane were resolved by 10% SDS-PAGE and transferred to nitrocellulose. The membrane was blocked with 5% nonfat milk, incubated with 0.5 ug/mL primary antibody overnight at 4oC, and probed with an HRP-conjugated secondary antibody. Signal was visualized by chemiluminescence.

Description

EXOG Antibody / Nuclease EXOG, mitochondrial Antibody recognizes an endonuclease associated with mitochondrial nucleic acid metabolism. EXOG belongs to a family of nucleases capable of processing DNA substrates and has been implicated in the maintenance and repair of mitochondrial DNA (mtDNA). Because mitochondria generate reactive oxygen species during normal respiration, their genomes are continually exposed to oxidative damage that must be managed to preserve respiratory function and cellular energy production.

Mitochondrial DNA is compact and encodes essential components of the oxidative phosphorylation machinery. Lesions affecting this genome can interfere with replication or transcription and compromise electron transport. Repair of damaged bases frequently produces intermediate DNA structures that require controlled processing before strand continuity can be restored. EXOG has been studied as a nuclease involved in processing such intermediates, particularly during mitochondrial base excision repair. Its activity is thought to complement the actions of other mitochondrial DNA maintenance enzymes rather than operate as an isolated repair pathway.

Biochemical work has described EXOG nuclease activity on selected DNA structures, including substrates relevant to damaged or nicked DNA. The physiological significance of individual activities depends on the accessibility of mitochondrial DNA and the participation of additional repair factors. This distinction matters because nuclease behavior on purified substrates does not always identify its dominant function in living cells.

Defective mitochondrial genome maintenance can lead to altered respiratory capacity, changes in redox balance, and secondary effects on metabolic signaling. Experimental depletion of EXOG has been associated with mitochondrial dysfunction and increased sensitivity to some forms of cellular stress. Such findings support a role in genome protection, while leaving open questions about the precise order of enzymatic events in which EXOG participates.

NSJ Bioreagents offers this EXOG Antibody to support studies of mitochondrial DNA processing and the mechanisms that limit the consequences of oxidative genome damage. Defining EXOG's substrate preferences and molecular partners may help explain how mitochondrial repair pathways preserve the integrity of a genome that is continually challenged by its metabolic environment.

Explore related research targets in our Cell Biology Antibodies collection.

Application Notes

The appropriate working dilution of the EXOG Antibody / Nuclease EXOG, mitochondrial Antibody should be optimized by the end user.

Immunogen

The EXOG Antibody was generated using e. coli-derived human EXOG recombinant protein (amino acids Y77-S368).

Storage

Following reconstitution, the EXOG Antibody can be kept at 4oC for one month. Aliquot for extended storage at -20oC for up to six months, avoiding repeated freezing and thawing.

Alternate Names

EXOG antibody, Nuclease EXOG, mitochondrial antibody, Nuclease EXOG antibody, mitochondrial antibody, exo/endonuclease G antibody, Endo G like 1 antibody, ENDOGL1 antibody, ENDOGL2 antibody, Endonuclease G like 1 antibody, ENGL antibody, ENGL a antibody, ENGL B antibody

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