

Product Name: Endo G (1G19) Rabbit Monoclonal Antibody
Catalog #: AMRe10459

Summary

Production Name	Endo G (1G19) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB,ELISA
Reactivity	Human,Mouse,Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.
Purification	Affinity purification

Immunogen

Gene Name	ENDOG
Alternative Names	EndoG; EndonucleaseG; Mitochondrial endonuclease G; NUCG_HUMAN;
Gene ID	2021.0
SwissProt ID	Q14249.

Application

Dilution Ratio	WB 1:500~1:2000
Molecular Weight	33kDa

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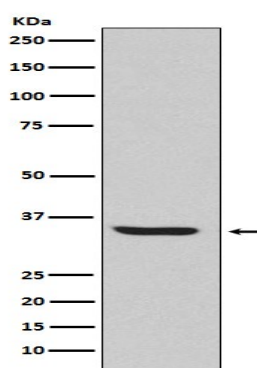


Background

Endo G is a nuclear encoded endonuclease that is localized in the mitochondrion. The encoded protein cleaves DNA at GC tracts. It is capable of generating the RNA primers required by DNA polymerase gamma to initiate replication of mitochondrial DNA. Endonuclease that preferentially catalyzes the cleavage of double-stranded 5-hydroxymethylcytosine (5hmC)-modified DNA (PubMed: [25355512](http://www.uniprot.org/citations/25355512)). The 5hmC-modified nucleotide does not increase the binding affinity, but instead increases the efficiency of cutting and specifies the site of cleavage for the modified DNAs (By similarity). Shows significantly higher affinity for four-stranded Holliday junction over duplex and single-stranded DNAs (By similarity). Promotes conservative recombination when the DNA is 5hmC-modified (PubMed: [25355512](http://www.uniprot.org/citations/25355512)). Promotes autophagy through the suppression of mTOR by its phosphorylation-mediated interaction with YWHAG and its endonuclease activity-mediated DNA damage response (PubMed: [33473107](http://www.uniprot.org/citations/33473107)). GSK3-beta mediated phosphorylation of ENDOG enhances its interaction with YWHAG, leading to the release of TSC2 and PIK3C3 from YWHAG resulting in mTOR pathway suppression and autophagy initiation (PubMed: [33473107](http://www.uniprot.org/citations/33473107)). Promotes cleavage of mtDNA in response to oxidative and nitrosative stress, in turn inducing compensatory mtDNA replication (PubMed: [29719607](http://www.uniprot.org/citations/29719607)).

Research Area

Image Data



Western blot analysis of Endo G expression in HepG2 cell lysate.

Note

For research use only.