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Endo G Antibody

Rabbit mAb
Catalog # AP91677

Product Information

Application	WB
Primary Accession	Q14249
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	EndoG; EndonucleaseG; Mitochondrial endonuclease G; NUCG_HUMAN;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	32620

Additional Information

Dilution	WB 1:500~1:2000
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Endo G
Description	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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

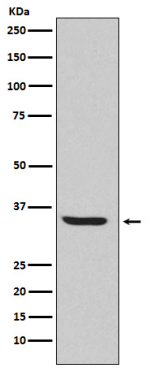
Protein Information

Name	ENDOG
Function	Endonuclease that preferentially catalyzes the cleavage of double-stranded 5-hydroxymethylcytosine (5hmC)-modified DNA (PubMed: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). Promotes autophagy through the suppression of mTOR by its phosphorylation-mediated interaction with YWHAG and its endonuclease activity-mediated DNA damage response (PubMed: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). Promotes cleavage of mtDNA in response to oxidative and nitrosative stress, in turn inducing compensatory mtDNA

replication (PubMed:29719607).

Cellular Location Mitochondrion.

Images



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

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