10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Endo G Antibody
Rabbit mAb
Catalog # AP91677

Specification

Endo G Antibody - Product Information

Application	**WB**
Primary Accession	Q14249
Reactivity	**Rat**
Clonality	**Monoclonal**

Other Names
EndoG; EndonucleaseG; Mitochondrial endonuclease G; NUCG_HUMAN;

Isotype	**Rabbit IgG**
Host	**Rabbit**
Calculated MW	**32620 Da**

Endo G Antibody - Additional Information

Dilution	**WB~~1:1000**
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.**

Endo G Antibody - 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).

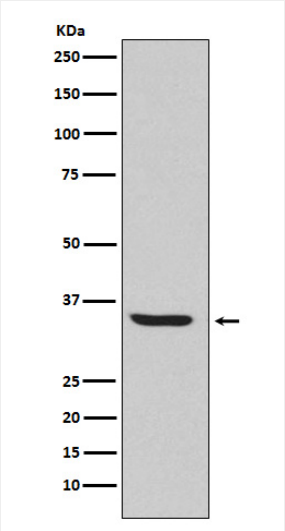
Cellular Location
Mitochondrion.

Endo G Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Endo G Antibody - Images



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