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Product Information

Anti-Endonuclease G
produced in rabbit, affinity isolated antibody

Catalog Number **E5654**

Synonym: Anti-EndoG

Product Description

Anti-Endonuclease G is produced in rabbit using a synthetic peptide (GGPRGPGELAKYGLP) corresponding to amino acids 55-70 of human endonuclease G as immunogen.[1] It is purified by immunoaffinity chromatography.

Anti-Endonuclease G recognizes EndoG by immunoblotting. It is reactive in human, mouse, and rat.

The activities of caspase and nuclease are involved in DNA fragmentation. Caspase-activated deoxyribonuclease (CAD), also termed DNA fragmentation factor (DFF40), is one such nuclease, and is capable of inducing DNA fragmentation and chromatin condensation after cleavage by caspase-3 of its inhibitor ICAD/DFF45. Caspase and CAD independent DNA fragmentation also exists.

Studies have demonstrated that another nuclease, endonuclease G (EndoG), is specifically activated by apoptotic stimuli and is able to induce nucleosomal fragmentation of DNA independently of caspase and DFF/CAD.[2, 3] EndoG is a mitochondrion-specific nuclease that translocates to the nucleus and cleaves chromatin DNA during apoptosis. The homologue of mammalian EndoG is the first mitochondrial protein identified to be involved in apoptosis in *C. elegans*.[3] EndoG also cleaves DNA *in vitro*.[4]

Reagent

Supplied at ~1 mg/ml in phosphate buffered saline containing 0.02% sodium azide

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Antibody can be stored at 2-8 °C for three months and at −20 °C for one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Product Profile

Immunoblotting: the recommended working antibody concentration is 1-2 µg/ml using mouse 3T3 (fibroblasts) and human HepG2 (hepatoblastoma) cell lysates. A band of ~35 kDa may be detected.

References

1. Tiranti, V., et al., Chromosomal localization of mitochondrial transcription factor A (TCF6), single-stranded DNA-binding protein (SSBP), and endonuclease G (ENDOG), three human housekeeping genes involved in mitochondrial biogenesis. *Genomics*, **25**, 559-564 (1995).
2. Li, L.Y., et al., Endonuclease G is an apoptotic DNase when released from mitochondria. *Nature*, **412**, 95-99 (2001).
3. Parrish, J., et al., Mitochondrial endonuclease G is important for apoptosis in C. elegans. *Nature*, **412**, 90-94 (2001).
4. Widlak, P., et al., action of recombinant human apoptotic endonuclease G on naked DNA and chromatin substrates: cooperation with exonuclease and DNase I. *J. Biol. Chem.*, **276**, 48404-48409 (2001).

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