**BACKGROUND**

Endonuclease G (ENDOG), a nuclear encoded protein, localizes to the mitochondria. This sugar-nonspecific nuclease, responsible for major mitochondrial nuclease activity, preferentially cleaves single-stranded DNA (ssDNA). Synthesized as a prepeptide with an amino-terminal presequence that targets the nuclease to mitochondria, END0G translocates to nuclei on apoptotic stimulation and acts as a nuclease without sequence specificity. Both exonucleases and DNase I stimulate the ability of END0G to generate double-stranded DNA cleavage products at physiological ionic strengths, suggesting that these activities work in concert with END0G in apoptotic cells to ensure efficient DNA breakdown. In addition to deoxyribonuclease activities, END0G also has ribonuclease (RNase) and RNase H activities. END0G is capable of generating the RNA primers required by DNA polymerase γ to initiate replication of mitochondrial DNA. END0G exists in the mitochondrial intermembrane space, but not in the matrix where mtDNA replication occurs. This enzyme provides an important nicking function for mitochondrial DNA specifically cleaving DNA at GC tracts. Human END0G maps to chromosome 9q34.11.

**REFERENCES**


Genetic locus: END0G (human) mapping to 9q34.11; Endog (mouse) mapping to 2 B.

**SOURCE**

END0G (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 59-91 near the N-terminus of END0G of human origin.

**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**PRODUCT**

Each vial contains 200 µg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398683 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

END0G (C-1) is recommended for detection of END0G of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for END0G siRNA (h): sc-105330, END0G siRNA (m): sc-144651, END0G shRNA Plasmid (h): sc-105330-SH, END0G shRNA Plasmid (m): sc-144651-SH, END0G shRNA (h) Lentiviral Particles: sc-105330-V and END0G shRNA (m) Lentiviral Particles: sc-144651-V.

Molecular Weight of END0G: 33 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, U-87 MG cell lysate: sc-2411 or HUV-EC-C whole cell lysate: sc-364180.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

**DATA**

END0G (C-1): sc-398683. Western blot analysis of END0G expression in K-562 [A], U-87 MG [B] and HUV-EC-C [C] whole cell lysates.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.