**BACKGROUND**

Endonuclease G (ENDOG), a nuclear encoded protein, localizes to the mitochondria. This sugar-nonspecific nuclease, responsible for major mitochondrial nucleolytic activity, preferentially cleaves single-stranded DNA (ssDNA). Synthesized as a propeptide with an amino-terminal presequence that targets the nuclease to mitochondria, ENDOG translocates to nuclei on apoptotic stimulation and acts as a nuclease without sequence specificity. Both exonucleases and Dnase I stimulate the ability of ENDOG to generate double-stranded DNA cleavage products at physiological ionic strengths, suggesting that these activities work in concert with ENDOG in apoptotic cells to ensure efficient DNA breakdown. In addition to deoxyribonuclease activities, ENDOG also has ribonuclease (RNase) and RNase H activities. ENDOG is capable of generating the RNA primers required by DNA polymerase γ to initiate replication of mitochondrial DNA. ENDOG 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 ENDOG maps to chromosome 9q34.11.

**REFERENCES**


**CHROMOSOMAL LOCATION**

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

**SOURCE**

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

**PRODUCT**

Each vial contains 200 µg IgG 1 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**

ENDOG (C-1) is recommended for detection of ENDOG 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).


Molecular Weight of ENDOG: 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: 1) Western Blotting: use m-IgG B-1-2 HRP: sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**DATA**

**STORAGE**

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

**RESEARCH USE**

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

**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

**RECOMMENDED SUPPORT REAGENTS**

- 1) Western Blotting: use m-IgG or UltraCruz sc-24941 or UltraCruz sc-516141 (dilution range: 1:50-1:200) with UltraCruz sc-516214 and Western Blotting Luminol Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

- 3) Immunofluorescence: use m-IgG sc-2411 or HUV-EC-C whole cell lysate: sc-364180.

**Molecular Weight Standards:**

- sc-2035, UltraCruz sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

- 3) Immunofluorescence: use m-IgG sc-2411 or HUV-EC-C whole cell lysate: sc-364180.

**ENDOG shRNA Plasmid (m):** sc-144651-SH, ENDOG shRNA (h) Lentiviral Particles: sc-105330-V and ENDOG shRNA (m) Lentiviral Particles: sc-144651-V.

Molecular Weight of ENDOG: 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**

- 1) Western Blotting: use m-IgG sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**APPLICATIONS**

ENDOG (C-1) is recommended for detection of ENDOG 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).

**REFERENCES**