

DNase I (H-50): sc-30058

BACKGROUND

Internucleosomal DNA fragmentation following the activation of endonucleases is the common end point of apoptosis. DNase I, a $\text{Ca}^{2+}/\text{Mg}^{2+}$ -dependent endonuclease ubiquitously expressed in mammalian tissues, has been implicated to mediate internucleosomal DNA degradation in human cells undergoing apoptosis. DNase I is highly polymorphic, and at least six alleles of DNase I are known. DNase II, the ubiquitously expressed acidic deoxyribonuclease, acts downstream of caspase activation and may also induce DNA digestion during apoptosis. DNase I cleaves DNA to 5'-phosphodinucleotide and 5'-phosphooligonucleotide end products, whereas DNase II cleaves DNA to 3'-phosphomononucleotide and 3'-phosphooligonucleotide end-products. The mechanism by which DNase II cuts DNA is similar to DNase I, which produces nicks rather than double-strand cuts. DNase II is usually present in cytoplasm of epithelial cells, but it appears concentrated in the nuclei of lens fibers. In contrast, DNase I is always concentrated in nuclei of epithelial and fiber cells. The gene encoding DNase II maps to human chromosome 19.

REFERENCES

1. Torriglia, A., et al. 1995. Involvement of DNase II in nuclear degeneration during lens cell differentiation. *J. Biol. Chem.* 270: 28579-28585.
2. Baker, K.P., et al. 1998. Molecular cloning and characterization of human and murine DNase II. *Gene* 215: 281-289.

CHROMOSOMAL LOCATION

Genetic Locus: DNASE1 (human) mapping to 16p13.3; Dnase1 (mouse) mapping to 16 A1.

SOURCE

DNase I (H-50) is a rabbit polyclonal antibody raised against amino acids 106-155 mapping within an internal region of DNase I of human origin.

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DNase I (H-50) is recommended for detection of DNase I of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 DNase I siRNA (h): sc-41505, DNase I siRNA (m): sc-41506, DNase I shRNA Plasmid (h): sc-41505-SH, DNase I shRNA Plasmid (m): sc-41506-SH, DNase I shRNA (h) Lentiviral Particles: sc-41505-V and DNase I shRNA (m) Lentiviral Particles: sc-41506-V.

Molecular Weight (predicted) of DNase I: 31 kDa.

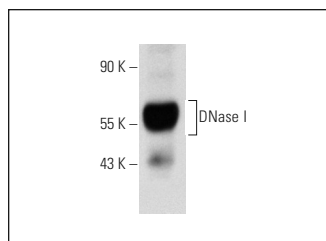
Molecular Weight (observed) of DNase I: 44-60 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

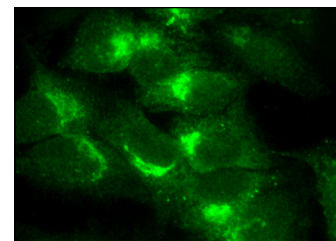
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



DNase I (H-50): sc-30058. Western blot analysis of DNase I expression in Hep G2 whole cell lysate.



DNase I (H-50): sc-30058. Immunofluorescence staining of formalin-fixed Hep G2 cells showing Golgi localization.

SELECT PRODUCT CITATIONS

1. Rosner, K., et al. 2011. Engineering a waste management enzyme to overcome cancer resistance to apoptosis: adding DNase1 to the anti-cancer toolbox. *Cancer Gene Ther.* 18: 346-357.

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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **DNase I (B-4): sc-376207** or **DNase I (D-1): sc-374207**, our highly recommended monoclonal alternatives to DNase I (H-50).