



DNASE1L3 (h): 293T Lysate: sc-174341

BACKGROUND

DNASE1L3 (deoxyribonuclease I-like 3), also known as LSD (liver and spleen DNase), DHP2, DNase γ , DNase Y or DNAS1L3, is a member of the DNase I family of $\text{Ca}^{2+}/\text{Mg}^{2+}$ -dependent endonucleases. DNASE1L3 localizes to the nucleus and is expressed in liver, spleen, thymus, small intestine, kidney, bone marrow and lymph node. DNASE1L3 cleaves nuclear chromatin internucleosomally and is believed to play a role in DNA breakdown during apoptosis. DNASE1L3 cleaves single- and double-stranded DNA, producing 3'-OH/5'-P ends. The endonuclease activity of DNASE1L3 can be enhanced by association with α -actinin-4 and repressed by poly-ADP-ribosylation by PARP-1. PARP-1 activity can be inactivated in the execution phase of apoptosis by caspase-like proteases, thereby relieving the inhibition of DNASE1L3. DNASE1L3 may also be inhibited by zinc, but, in contrast with DNase I, it is not inhibited by monomeric Actin.

REFERENCES

1. Yakovlev, A.G., et al. 1999. Role of DNASE1L3 in Ca^{2+} - and Mg^{2+} -dependent cleavage of DNA into oligonucleosomal and high molecular mass fragments. *Nucleic Acids Res.* 27: 1999-2005.
2. Liu, Q.Y., et al. 2000. Apoptosis-related functional features of the DNase I-like family of nucleases. *Ann. N.Y. Acad. Sci.* 887: 60-76.
3. Boulares, A.H., et al. 2002. Regulation of DNASE1L3 endonuclease activity by poly(ADP-ribosylation) during etoposide-induced apoptosis. Role of poly(ADP-ribose) polymerase-1 cleavage in endonuclease activation. *J. Biol. Chem.* 277: 372-378.
4. Boulares, A.H., et al. 2002. The poly(ADP-ribose) polymerase-1-regulated endonuclease DNASE1L3 is required for etoposide-induced internucleosomal DNA fragmentation and increases etoposide cytotoxicity in transfected osteosarcoma cells. *Cancer Res.* 62: 4439-4444.

CHROMOSOMAL LOCATION

Genetic locus: DNASE1L3 (human) mapping to 3p14.3.

PRODUCT

DNASE1L3 (h): 293T Lysate represents a lysate of human DNASE1L3 transfected 293T cells and is provided as 100 μg protein in 200 μl SDS-PAGE buffer.

APPLICATIONS

DNASE1L3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive DNASE1L3 antibodies. Recommended use: 10-20 μl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20°C . Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.