

LAP2 (h): 293T Lysate: sc-116552

BACKGROUND

The nuclear envelope separates the nucleoplasm from the cytoplasm in eukaryotic cells and includes the outer and inner nuclear membrane, nuclear pore complexes and the nuclear lamina. The nuclear lamina contains intermediate filament-type proteins called lamins that form a dense network to strengthen and stabilize the nuclear envelope. Lamina-associated polypeptide 2 (LAP2) is also known as thymopoietin. LAP2 is a nuclear envelope protein and contains an amino-terminal region called the LAP2-emerin-MAN1 or LEM motif. LAP2 also contains a unique DNA-binding amino-terminal domain. Alternative splicing produces six isoforms (α , β , γ , δ , ϵ and ζ) of mammalian LAP2 and three isoforms in *Xenopus* LAP2. LAP2 α and LAP2 β associate with chromosomal barrier-to-autointegration factor (BAF) and may play a role in stabilizing chromatin structure. LAP2 β also binds to Lamin B. LAP2 α is a non-membrane isoform of LAP2 that associates with the internal nucleoskeleton and binds Lamin A. The gene encoding human LAP2 maps to chromosome 12q23.1.

REFERENCES

- Harris, C.A., et al. 1995. Structure and mapping of the human thymopoietin (TMPO) gene and relationship of human TMPO β to rat Lamin-associated polypeptide 2. *Genomics*. 28: 198-205.
- Lin, F., et al. 2000. MAN1, an inner nuclear membrane protein that shares the LEM domain with lamina-associated polypeptide 2 and emerlin. *J. Biol. Chem.* 275: 4840-4847.
- Dechat, T., et al. 2000. Review: lamina-associated polypeptide 2 isoforms and related proteins in cell cycle-dependent nuclear structure dynamics. *J. Struct. Biol.* 129: 335-345.
- Dechat, T., et al. 2000. Lamina-associated polypeptide 2 α binds intranuclear A-type lamins. *J. Cell Sci.* 113: 3473-3484.
- Cai, M., et al. 2001. Solution structure of the constant region of nuclear envelope protein LAP2 reveals two LEM-domain structures: one binds BAF and the other binds DNA. *EMBO J.* 20: 4399-4407.

CHROMOSOMAL LOCATION

Genetic locus: TMPO (human) mapping to 12q23.1.

PRODUCT

LAP2 (h): 293T Lysate represents a lysate of human LAP2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

LAP2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive LAP2 antibodies. Recommended use: 10-20 μ l per lane.

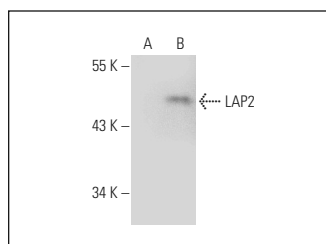
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

YB-1 (59-Q): sc-101198 is recommended as a positive control antibody for Western Blot analysis of enhanced human LAP2 expression in LAP2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): 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.

DATA



YB-1 (59-Q): sc-101198. Western blot analysis of LAP2 expression in non-transfected: sc-117752 (A) and human LAP2 transfected: sc-116552 (B) 293T whole cell lysates.

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.