

LAP2 (H-130): sc-28541

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.

CHROMOSOMAL LOCATION

Genetic locus: TMPO (human) mapping to 12q23.1; Tmpo (mouse) mapping to 10 C2.

SOURCE

LAP2 (H-130) is a rabbit polyclonal antibody raised against amino acids 1-70 mapping at the N-terminus of LAP2 of human origin.

PRODUCT

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

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.

APPLICATIONS

LAP2 (H-130) is recommended for detection of LAP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

LAP2 (H-130) is also recommended for detection of LAP2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for LAP2 siRNA (h): sc-43386, LAP2 siRNA (m): sc-43387, LAP2 shRNA Plasmid (h): sc-43386-SH, LAP2 shRNA Plasmid (m): sc-43387-SH, LAP2 shRNA (h) Lentiviral Particles: sc-43386-V and LAP2 shRNA (m) Lentiviral Particles: sc-43387-V.

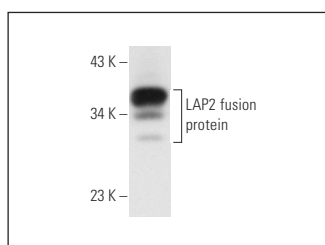
Molecular Weight of LAP2: 58 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

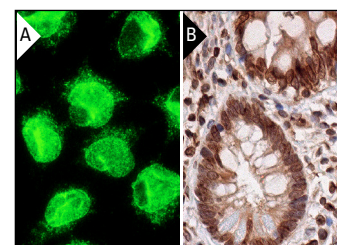
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



LAP2 (H-130): sc-28541. Western blot analysis of human recombinant LAP2 fusion protein.



LAP2 (H-130): sc-28541. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear envelope, nuclear and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Ward, M.C., et al. 2011. Deregulated LAP2 α expression in cervical cancer associates with aberrant E2F and p53 activities. *IUBMB Life* 63: 1018-1026.