

LTN1 (N-20): sc-83353

BACKGROUND

LTN1 (listerin E3 ubiquitin protein ligase 1), also known as RNF160, ZNF294, C21orf10, C21orf98 or KIAA0714, is a 1,766 amino acid protein that belongs to the LTN1 family and contains 16 HEAT repeats and contains one RING-type zinc finger. LTN1 is an E3 ubiquitin ligase, as are many RING finger proteins. LTN1 and NEMF, along with possibly TCF25 and VCP/p97, are components of the ribosome quality control complex, a ribosome-associated complex that mediates ubiquitination and extracts for proteasomal degradation incompletely synthesized protein chains. It has been found that mice with homozygous mutations in LTN1 show marked early-onset and progressive neurological and motor dysfunction with signs including gliosis, dystrophic neurites, vacuolated mitochondria, and accumulation of soluble hyperphosphorylated tau. Interference with the LTN1-regulated processes has been linked with neurodegeneration.

REFERENCES

1. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 277-286.
2. Chu, J., et al. 2009. A mouse forward genetics screen identifies LISTERIN as an E3 ubiquitin ligase involved in neurodegeneration. Proc. Natl. Acad. Sci. USA 106: 2097-2103.
3. Bengtson, M.H. and Joazeiro, C.A. 2010. Role of a ribosome-associated E3 ubiquitin ligase in protein quality control. Nature 467: 470-473.
4. Shao, S., et al. 2013. Listerin-dependent nascent protein ubiquitination relies on ribosome subunit dissociation. Mol. Cell 50: 637-648.

CHROMOSOMAL LOCATION

Genetic locus: LTN1 (human) mapping to 21q21.3; Ltn1 (mouse) mapping to 16 C3.3.

SOURCE

LTN1 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of LTN1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83353 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

LTN1 (N-20) is recommended for detection of LTN1 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), 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).

LTN1 (N-20) is also recommended for detection of LTN1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for LTN1 siRNA (h): sc-91401, LTN1 siRNA (m): sc-155678, LTN1 shRNA Plasmid (h): sc-91401-SH, LTN1 shRNA Plasmid (m): sc-155678-SH, LTN1 shRNA (h) Lentiviral Particles: sc-91401-V and LTN1 shRNA (m) Lentiviral Particles: sc-155678-V.

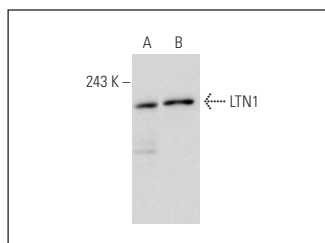
Molecular Weight of LTN1: 200 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or SJRH30 cell lysate: sc-2287.

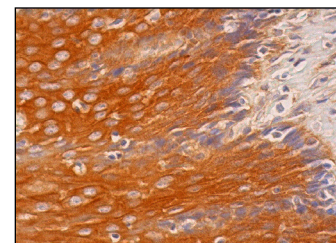
RECOMMENDED SECONDARY REAGENTS

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



LTN1 (N-20): sc-83353. Western blot analysis of LTN1 expression in K-562 (A) and SJRH30 (B) whole cell lysates.



LTN1 (N-20): sc-83353. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

RESEARCH USE

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