SANTA CRUZ BIOTECHNOLOGY, INC.

MAP LC3α/β (H-47): sc-292354

BACKGROUND

Microtubule-associated proteins (MAPs) regulate microtubule stability and play critical roles in neuronal development and in maintaining the balance between neuronal plasticity and rigidity. MAP-light chain 3 β (MAP LC3β) and MAP-light chain 3 α (MAP LC3α) are subunits that can associate with either MAP-1A or MAP-1B. While MAP LC3β is essential for autophagy and is associated with autophagosome membranes after processing, MAP LC3α is involved in the formation of autophagosomal vacuoles and is localized to the intracytoplasmic membrane. MAP LC3α is expressed as two alternatively spliced isoforms that are expressed in testis, brain, heart, liver and skeletal muscle, but are absent in thymus and peripheral blood leukocytes. MAP LC3β, which exists in a cytosolic and a membrane-bound form, may also be involved in formation of autophagosomal vacuoles and is expressed primarily in heart, testis, brain and skeletal muscle.

CHROMOSOMAL LOCATION

Genetic locus: MAP1LC3A (human) mapping to 20q11.22, MAP1LC3B (human) mapping to 16q24.2; Map1lc3a (mouse) mapping to 2 H1, Map1lc3b (mouse) mapping to 8 E1.

SOURCE

MAP LC3α/β (H-47) is a rabbit polyclonal antibody raised against amino acids 58-104 mapping within an internal region of MAP LC3α 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.

STORAGE

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

APPLICATIONS

MAP LC3α/β (H-47) is recommended for detection of MAP LC3α and, to a lesser extent, MAP LC3β 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).

MAP LC3α/β (H-47) is also recommended for detection of MAP LC3α and, to a lesser extent, MAP LC3β in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MAP LC3α/β siRNA (m): sc-156052, MAP LC3α/β shRNA Plasmid (m): sc-156052-SH and MAP LC3α/β shRNA (m) Lentiviral Particles: sc-156052-V.

Molecular Weight of MAP LC3α isoforms: 15/18 kDa.

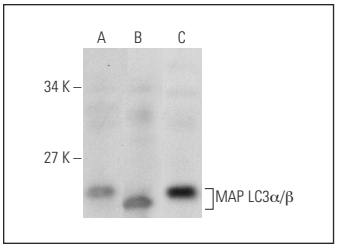
Molecular Weight of MAP LC3β: 15 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

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



MAP LC3α/β (H-47): sc-292354. Western blot analysis of MAP LC3α/β expression in IMR-32 (**A**), HeLa (**B**) and Hep G2 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhang, H., et al. 2013. Galangin inhibits proliferation of HepG2 cells by activating AMPK via increasing the AMP/TAN ratio in a LKB1-independent manner. Eur. J. Pharmacol. 718: 235-244.
2. Berger, A., et al. 2014. RAF inhibition overcomes resistance to TRAIL-induced apoptosis in melanoma cells. J. Invest. Dermatol. 134: 430-440.
3. Zhang, R., et al. 2015. Inhibition of autophagy using 3-methyladenine increases cisplatin-induced apoptosis by increasing endoplasmic reticulum stress in U251 human glioma cells. Mol. Med. Rep. 12: 1727-1732.

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.