

MAP LC3 β (h): 293T Lysate: sc-129100

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 LC3 β) and MAP-light chain 3 α (MAP LC3 α) are subunits of both MAP1A and MAP1B. MAP LC3 β , a homolog of Apg8p, is essential for autophagy and associated to the autophagosome membranes after processing. Two forms of LC3 β , the cytosolic LC3-I and the membrane-bound LC3-II, are produced posttranslationally. LC3-I is formed by the removal of the C-terminal 22 amino acids from newly synthesized LC3 β , followed by the conversion of a fraction of LC3-I into LC3-II. LC3 enhances Fibronectin mRNA translation in ductus arteriosus cells through association with 60S ribosomes and binding to an AU-rich element in the 3' untranslated region of Fibronectin mRNA. This facilitates sorting of Fibronectin mRNA onto rough endoplasmic reticulum and translation. MAP LC3 β may also be involved in formation of autophagosomal vacuoles. It is expressed primarily in heart, testis, brain and skeletal muscle.

REFERENCES

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2. Mann, S.S. and Hammarback, J.A. 1996. Gene localization and developmental expression of light chain 3: a common subunit of microtubule-associated protein 1A (MAP1A) and MAP1B. *J. Neurosci. Res.* 43: 535-544.
3. Zhou, B., Boudreau, N., Coubler, C., Hammarback, J. and Rabinovitch, M. 1997. Microtubule-associated protein 1 light chain 3 is a Fibronectin mRNA-binding protein linked to mRNA translation in lamb vascular smooth muscle cells. *J. Clin. Invest.* 100: 3070-3082.
4. Zhou, B. and Rabinovitch, M. 1998. Microtubule involvement in translational regulation of Fibronectin expression by light chain 3 of microtubule-associated protein 1 in vascular smooth muscle cells. *Circ. Res.* 83: 481-489.
5. Kabeya, Y., Mizushima, N., Ueno, T., Yamamoto, A., Kirisako, T., Noda, T., Kominami, E., Ohsumi, Y. and Yoshimori, T. 2000. LC3, a mammalian homolog of yeast Apg8p, is localized in autophagosome membrane after processing. *EMBO J.* 19: 5720-5728.

CHROMOSOMAL LOCATION

Genetic locus: MAP1LC3B (human) mapping to 16q24.2.

PRODUCT

MAP LC3 β (h): 293T Lysate represents a lysate of human MAP LC3 β transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

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.

APPLICATIONS

MAP LC3 β (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive MAP LC3 β antibodies. Recommended use: 10-20 μ l per lane.

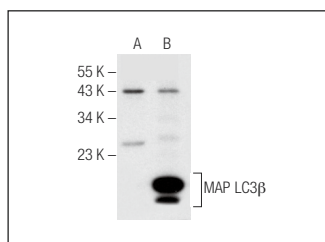
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MAP LC3 β (G-9): sc-376404 is recommended as a positive control antibody for Western Blot analysis of enhanced human MAP LC3 β expression in MAP LC3 β 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



MAP LC3 β (G-9): sc-376404. Western blot analysis of MAP LC3 β expression in non-transfected: sc-117752 (A) and human MAP LC3 β transfected: sc-129100 (B) 293T whole cell lysates.

PROTOCOLS

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