

# MAP LC3 $\alpha$ / $\beta$ (F-14): sc-16756

## 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  $\beta$  (MAP LC3 $\beta$ ) and MAP-light chain 3  $\alpha$  (MAP LC3 $\alpha$ ) are subunits that can associate with either MAP-1A or MAP-1B. While MAP LC3 $\beta$  is essential for autophagy and is associated with autophagosomal membranes after processing, MAP LC3 $\alpha$  is involved in the formation of autophagosomal vacuoles and is localized to the intracytoplasmic membrane. MAP LC3 $\alpha$  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 LC3 $\beta$ , 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.

## SOURCE

MAP LC3 $\alpha$ / $\beta$  (F-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MAP LC3 $\beta$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-16756 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MAP LC3 $\alpha$ / $\beta$  (F-14) is recommended for detection of MAP LC3 $\alpha$  and MAP LC3 $\beta$  of mouse, rat and human origin and MAP LC3 $\beta$ 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 LC3 $\alpha$ / $\beta$  (F-14) is also recommended for detection of MAP LC3 $\alpha$  and MAP LC3 $\beta$  and MAP LC3 $\beta$ 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MAP LC3 $\alpha$ / $\beta$  siRNA (m): sc-156052, MAP LC3 $\alpha$ / $\beta$  shRNA Plasmid (m): sc-156052-SH and MAP LC3 $\alpha$ / $\beta$  shRNA (m) Lentiviral Particles: sc-156052-V.

Molecular Weight of MAP LC3 $\alpha$  isoforms: 15/18 kDa.

Molecular Weight of MAP LC3 $\beta$ : 15 kDa.

## 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.

## SELECT PRODUCT CITATIONS

- Al-Younes, H.M., et al. 2004. Interaction of *Chlamydia trachomatis* serovar L2 with the host autophagic pathway. *Infect. Immun.* 72: 4751-4762.
- Korshunov, A., et al. 2004. Molecular stratification of diagnostically challenging high-grade gliomas composed of small cells: the utility of fluorescence *in situ* hybridization. *Clin. Cancer Res.* 10: 7820-7826.
- Al-Adhami, B.H., et al. 2005. The role of acidic organelles in the development of schistosomula of *Schistosoma mansoni* and their response to signalling molecules. *Parasitology* 130: 309-322.
- Tomas-Zapico, C., et al. 2005. Survival mechanisms in a physiological oxidative stress model. *FASEB J.* 19: 2066-2068.
- Hamacher-Brady, A., et al. 2006. Enhancing macroautophagy protects against ischemia/reperfusion injury in cardiac myocytes. *J. Biol. Chem.* 281: 29776-29787.
- Wu, H., et al. 2006. Elongation factor-2 kinase regulates autophagy in human glioblastoma cells. *Cancer Res.* 66: 3015-3023.
- Gohla, A., et al. 2007. An obligatory requirement for the heterotrimeric G protein G<sub>3</sub> in the antiautophagic action of Insulin in the liver. *Proc. Natl. Acad. Sci. USA* 104: 3003-3008.
- Chang, C.P., et al. 2007. Concanavalin A induces autophagy in hepatoma cells and has a therapeutic effect in a murine *in situ* hepatoma model. *Hepatology* 45: 286-296.
- Tannous, P., et al. 2008. Autophagy is an adaptive response in desmin-related cardiomyopathy. *Proc. Natl. Acad. Sci. USA* 105: 9745-9750.
- Tannous, P., et al. 2008. Intracellular protein aggregation is a proximal trigger of cardiomyocyte autophagy. *Circulation* 117: 3070-3078.
- Khakpoor, A., et al. 2009. A role for autophagolysosomes in dengue virus 3 production in HepG2 cells. *J. Gen. Virol.* 90: 1093-1103.
- Caballero, B., et al. 2009. Melatonin alters cell death processes in response to age-related oxidative stress in the brain of senescence-accelerated mice. *J. Pineal Res.* 46: 106-114.
- Vega-Naredo, I., et al. 2009. Physiological autophagy in the Syrian hamster Harderian gland. *Methods Enzymol.* 452: 457-476.
- Newton, I.P., et al. 2010. Adenomatous polyposis coli and hypoxia-inducible factor-1 $\alpha$  have an antagonistic connection. *Mol. Biol. Cell* 21: 3630-3638.
- Blanchet, F.P., et al. 2010. Human immunodeficiency virus-1 inhibition of immunoamphisomes in dendritic cells impairs early innate and adaptive immune responses. *Immunity* 32: 654-669.


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Try **MAP LC3 $\alpha$ / $\beta$  (G-4): sc-398822**, our highly recommended monoclonal alternative to MAP LC3 $\alpha$ / $\beta$  (F-14). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **MAP LC3 $\alpha$ / $\beta$  (G-4): sc-398822**.