SANTA CRUZ BIOTECHNOLOGY, INC.

MAP LC3α/β (G-4): sc-398822



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 that can associate with either MAP-1A or MAP-1B. While MAP-LC3 β is essential for autophagy and is associated with autophagosome membranes after processing, MAP LC3 α is involved in the formation of autophagosomal vacuoles and is localized to the intracytoplasmic membrane. MAP LC3 α 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 β , 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 α/β (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 33-56 within an internal region of MAP LC3 β of human origin.

PRODUCT

Each vial contains 200 $\mu g\, lgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAP LC3 α/β (G-4) is available conjugated to agarose (sc-398822 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398822 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398822 PE), fluorescein (sc-398822 FITC), Alexa Fluor[®] 488 (sc-398822 AF488), Alexa Fluor[®] 546 (sc-398822 AF546), Alexa Fluor[®] 594 (sc-398822 AF594) or Alexa Fluor[®] 647 (sc-398822 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398822 AF680) or Alexa Fluor[®] 790 (sc-398822 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398822 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MAP LC3 α/β (G-4) is recommended for detection of MAP LC3 α and MAP LC3 β of mouse, rat and human origin and MAP LC3 β 2 of human origin by Western Blotting (starting dilution 1:100, 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).

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

Molecular Weight of MAP LC3 a isoforms: 15/18 kDa.

Molecular Weight of MAP LC36: 15 kDa.

Positive Controls: HT-1080 whole cell lysate: sc-364183, Saos-2 cell lysate: sc-2235 or U-251-MG whole cell lysate: sc-364176.

STORAGE

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

DATA



MAP LC3ct/ β (G-4): sc-398822. Western blot analysis of MAP LC3ct/ β expression in Saos-2 (A), U-251-MG (B) and HT-1080 (C) whole cell lysates and mouse brain (D) and rat brain (E) tissue extracts.



SELECT PRODUCT CITATIONS

- Ozeki, N., et al. 2015. Interleukin-1β-induced autophagy-related gene 5 regulates proliferation of embryonic stem cell-derived odontoblastic cells. PLoS ONE 10: e0124542.
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- 3. Wang, T., et al. 2017. Regulation of autophagy inhibition and inflammatory response in glioma by Wnt signaling pathway. Oncol. Lett. 14: 7197-7200.
- Lu, Q., et al. 2017. EWS-FLI1 positively regulates autophagy by increasing ATG4B expression in Ewing sarcoma cells. Int. J. Mol. Med. 40: 1217-1225.
- Rubtsova, M., et al. 2018. Protein encoded in human telomerase RNA is involved in cell protective pathways. Nucleic Acids Res. 46: 8966-8977.
- Mylka, V., et al. 2018. The autophagy receptor SQSTM1/p62 mediates anti-inflammatory actions of the selective NR3C1/glucocorticoid receptor modulator compound A (CpdA) in macrophages. Autophagy 14: 2049-2064.
- Ji, H., et al. 2018. Effects of thymosin β4 on oxygen-glucose deprivation and reoxygenation-induced injury. Int. J. Mol. Med. 41: 1749-1755.
- Wnuk, A., et al. 2019. Prenatal exposure to benzophenone-3 impairs autophagy, disrupts RXRs/PPARγ signaling, and alters epigenetic and post-translational statuses in brain neurons. Mol. Neurobiol. 56: 4820-4837.
- Rzemieniec, J., et al. 2019. The neuroprotective action of 3,3'-diindolylmethane against ischemia involves an inhibition of apoptosis and autophagy that depends on HDAC and AhR/CYP1A1 but not ERα/CYP19A1 signaling. Apoptosis 24: 435-452.

RESEARCH USE

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

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