

Mouse Monoclonal Antibody to

LC3 (microtubule-associated protein1 light chain 3B) clone 5F10

Order No.: 0231-100/LC3-5F10
Size (µg) 100
Lot No.: 0231S



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08/311013F

Isotype	Species Reactivity	Applications	Mol. Weight	Ref.Cell Line	Epitope	Immunogen
IgG1	human, mouse, rat, dog, hamster	ICC, WB	LC3-I: 18kDa LC3-II:16kDa	Neuro 2A	N-terminus of LC3-B	synthetic peptide conjugated to hemocyanin

Background and Specificity:

Autophagy is an alternative process of proteasomal degradation for some long-lived proteins or organelles. Alterations in the autophagic-lysosomal compartment have been linked to neuronal death in many neurodegenerative disorders as well as in transmissible neuronal pathologies (prion diseases). Genetic studies in yeast have shown that Autophagy-defective Gene-8 (Atg-8) represents a specific marker for autophagy. Among the four families of mammalian Atg8-related proteins only LC3 (microtubule-associated protein1 light chain 3) is expressed at sufficient high levels and efficiently recruited to autophagic vesicles in cells and tissues. During autophagy the cytoplasmic form, LC3-I is processed and recruited to autophagosomes, where LC3-II is generated by site specific proteolysis near to the C-terminus. Autophagic vacuoles have been also reported frequently in cardiomyopathies or muscle cells exposed to different experimental settings.

Mab LC3-5F10 specifically recognizes both forms of endogenous LC3, the cytoplasmic LC3-I (18 kDa) as well as the lipidated form generated during autophagosome and autophagolysosome formation: LC3-II (16 kDa). Immunocytochemical staining of cells with LC3-5F10 mab reveals the specific punctate distribution of endogenous LC3-II as a hallmark of autophagic activity.

NOTE: We strongly recommend to use PVDF membranes for immunoblot analysis.

Related Products

mab to LC3

#0260-100/LC3-2G6

mab to LC3

#0261-100/LC3-5H3

mab to Beclin

#0240-100/Beclin-12B4

Alzheimer Disease

mab to βA4 (1-40), C-Terminus

#0060-100/bA4(40)-5C3

mab to βA4 (1-42), C-Terminus

#0061-100/bA4(42)-8G7

mab to βA4 (1-40/42), C-Terminus

#0062-100/bA4(40/42)-9F1

mab to βA4 (1-43), C-Terminus

#0095-100/bA4(43)-6G12

mab to βA4, N-Terminus

#0064-100/bA4N-19H5

mab to βA4, N-Terminus

#0084-100/bA4N-19H11

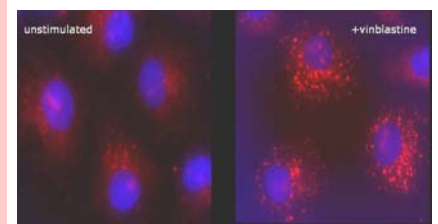
mab to βA4, N-Terminus

#0197-100/bA4N-11H3

For monoclonal antibodies against PKB/akt, and SAPK/jnk, please refer to our website at www.nanotools.de

Purification:	The antibody was purified from serum-free cell culture supernatant by subsequent ultrafiltration and size exclusion chromatography.
Formulation:	Lyophilized from 1ml PBS / 0.09% Na-azide / PEG and Sucrose.
Reconstitution:	Reconstitute with 1ml H ₂ O (15 min, RT).
Stability:	For long-term storage, freeze lyophilizate upon arrival (-20°C). Upon reconstitution, aliquote and freeze in liquid nitrogen; reconstituted antibody can be stored frozen at -80°C up to 1 year. Thaw aliquots at 37°C. Thawed aliquots may be stored at 4°C up to 3 months. Avoid repeated freeze / thaw cycles
Positive Control:	#1041/PC3/LC3I and #1042/PC3/LC3II positive controls
Immunoblotting:	0.5 µg/ml for HRPO/ECL detection Recommended blocking buffer: Casein/Tween 20 based blocking and blot incubation buffer, e.g. nanoTools product #3031-500/CPPT or #3031-3000/CPPT.
Immunoprecipitation:	ND
Immunocytochemistry:	Use at 1- 10 µg/ml (paraformaldehyd/methanol fixation)
ELISA:	ND

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Endogenous LC-3 punctae detected with anti LC-3 mab 5F10.

The majority of LC-3 was diffusely localized in unstimulated COS-7 cells, whereas punctated signals of LC-3 increase after induction of autophagy by vinblastin stimulation for 2 hr. Cells were fixed with paraformaldehyd followed by methanol treatment. Cells were permeabilized with 0.3% TritonX100. Endogenous LC-3 was detected with mab 5F10. (Images by courtesy of I. Ciechomska and A. Tolkskovy, University of Cambridge, UK).