

Store at
-20°C

#20258

LAPosome Antibody Sampler Kit



Cell Signaling
TECHNOLOGY®

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New 06/21

For Research Use Only. Not For Use In Diagnostic Procedures.

Product Includes	Product #	Quantity	Mol. Wt.	Isotype/Source
Beclin-1 (D40C5) Rabbit mAb	3495	20 µl	60 kDa	Rabbit IgG
Rubicon (D9F7) Rabbit mAb	8465	20 µl	130 kDa	Rabbit IgG
PI3 Kinase Class III (D9A5) Rabbit mAb	4263	20 µl	100 kDa	Rabbit
UVRAG (D2Q1Z) Rabbit mAb	13115	20 µl	90 kDa	Rabbit IgG
PIK3R4 Antibody	14580	20 µl	153 kDa	Rabbit
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions, and additional application protocols.

Description: The LAPosome Antibody Sampler Kit provides an economical means of analyzing the proteins in the LAPosome complex. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

Background: LC3-associated phagocytosis (LAP) is a process at the crossroads between autophagy and phagocytosis in which uptake of extracellular particles into phagophores utilizes components of the autophagic machinery and is targeted to the lysosome for degradation (reviewed in 1-3). Activation of LAP by infectious agents through engagement of pathogen receptors like Toll-like receptors (TLRs) are important in immune regulation and host defense. While autophagosomes and LAP phagophores both express lipidated LC3, autophagosomes are double membrane vesicles while the phagophores in LAP are single membrane. While LAP shares some components of canonical autophagy, there are some distinct differences. Both autophagy and LAP require PI3 Kinase Class III (PI3KC3; also known as VPS34) as well as the regulatory protein PIK3R4 (also known as VPS15) and Beclin-1. However, while canonical autophagy requires Atg14 and Ambra-1 in this complex, LAP requires Rubicon and UVRAG. This complex, known as the LAPosome, activates PI3KC3 and triggers nicotinamide adenine dinucleotide phosphate (NADPH) oxidase 2 (NOX2), generating reactive oxygen species (ROS) for phagophore maturation. The expression of Rubicon in this complex has emerged as a defining characteristic of LAP.

Specificity/Sensitivity: Each antibody in the LAPosome Antibody Sampler Kit detects endogenous levels of its target protein. Rubicon (D9F7) Rabbit mAb detects a band of unknown origin at 55 kDa.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to residues surrounding Thr72 of human Beclin-1, Leu210 of human Rubicon, Lys630 of PI3 kinase class III, and Gly502 of human UVRAG. Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly825 of human PIK3R4 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibodies.

Please visit www.cellsignal.com for validation data and a complete listing of recommended companion products.

Background References:

- (1) Heckmann, B.L. and Green, D.R. (2019) *J Cell Sci* 132, jcs222984. doi: 10.1242/jcs.222984.
- (2) Martinez, J. (2018) *Curr Opin Immunol* 55, 54-61.
- (3) Upadhyay, S. and Philips, J.A. (2019) *Curr Opin Immunol* 60, 81-90.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected **Species enclosed in parentheses are predicted to react based on 100% homology.**