3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-ULK2
produced in rabbit, affinity isolated antibody

Product Number **U8008**

Product Description

Anti-ULK2 is produced in rabbit using as immunogen a synthetic peptide corresponding to a fragment of mouse ULK2 (GeneID: 29869), conjugated to KLH. The corresponding sequence differs by 2 amino acids in rat and 3 amino acids in human. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-ULK2 recognizes mouse ULK2. The antibody can be used for immunoblotting (~130 kDa). Detection of the ULK2 band by immunoblotting is specifically inhibited with the immunizing peptide.

Macroautophagy, usually referred to as autophagy, is a major pathway for bulk degradation of cytoplasmic constituents and organelles. In this process, portions of the cytoplasm are sequestered into double membrane vesicles, the autophagosomes, and subsequently delivered to the lysosome for degradation and recycling.[1,2] Although autophagy is a constitutive cellular event, it is enhanced under certain conditions such as starvation, hormonal stimulation, and drug treatments.[3]

Autophagy is required for normal turnover of cellular components during starvation. It plays an essential role in cellular differentiation, cell death, and aging. Defective autophagy may contribute to certain human diseases such as cancer, neurodegenerative diseases, muscular disorders and pathogen infections.[4,5] Autophagy is an evolutionarily conserved pathway seen in all eukaryotic cells.[1] At least 16 ATG genes required for autophagosome formation were identified in yeast by genetic screens. For many of these genes, related homologs have been identified in mammals.[6]

The autophagic-specific protein kinase Atg1 is a negative regulator of the target of rapamycin (TOR)/S6 kinase (S6K) pathway.[7] Atg1 forms a complex with Atg13, which is essential for autophagy in yeast. In mammals, two Atg1 homologs have been identified, ULK1 (uncoordinated 51-like kinase 1) and ULK2,[8] which belong to the Unc-51 family of serine/threonine kinases shown to be important for axon growth and endocytosis.[9] Murine ULK1 and ULK2 localize to autophagic isolated membranes under starvation conditions. ULK kinase activity is important for autophagy since kinase-dead alleles of ULK1 and ULK2 have a dominant-negative effect on autophagosome formation.[10]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 2.5–5.0 μg/mL is recommended using whole extracts of HEK-293T cells expressing mouse ULK2.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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VS,ST,TD,KAA,PHC,MAM 01/19-1