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Product Information

Anti-UVRAG
produced in rabbit, affinity isolated antibody

Catalog Number **U7508**

Product Description

Anti-UVRAG is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 665-678 of human UVRAG (GeneID: 7405), conjugated to KLH. The corresponding sequence is identical in mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-UVRAG recognizes human and mouse UVRAG by immunoblotting (~90 kDa). Detection of the UVRAG band by immunoblotting is specifically inhibited by 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 evolutionary 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]

UVRAG (UV irradiation resistance-associated gene) is a coiled-coil protein identified as a positive regulator of the Beclin 1-PI(3)KC3 complex. The tumor suppressor Beclin 1 forms a complex with PI(3)KC3, promoting autophagosome formation. This autophagic activity is suppressed by the proto-oncogene Bcl-2. UVRAG directly interacts with Beclin 1 via their coiled-coil domains, inducing autophagy and suppressing the proliferation and tumorigenicity of human colon cancer cells. UVRAG is monoallelically mutated in various human colon cancer cells and tissues, suggesting that UVRAG is a tumor suppressor candidate.[7, 8]

Reagent

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

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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, or storage in "frost-free" freezers, is not ecommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2-4 µg/mL is recommended using whole extracts of mouse brain and human HeLa cells.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working concentration by titration.

References

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3. Kabeya, Y., et al., *EMBO J.*, **19**, 5720-5728 (2000).
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6. Klionsky, D.J., et al., *Develop. Cell*, **5**, 539-545 (2003).
7. Liang, C., et al., *Nat. Cell Biol.*, **8**, 688-699 (2006).
8. Liang, C., et al., *Autophagy*, **3**, 69-71 (2007).

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