

Product Information

Monoclonal Anti-AKT1S1, clone AKT1S1-3

produced in mouse, purified immunoglobulin

Catalog Number **SAB4200256**

Product Description

Monoclonal Anti-AKT1S1 (mouse IgG1 isotype) is derived from the hybridoma AKT1S1-3 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a fusion protein corresponding to the N-terminus of human AKT1S1 (GeneID: 84335). The corresponding sequence differs by a single amino acid in rat, and by 2 amino acids in mouse AKT1S1. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-AKT1S1 recognizes human AKT1S1. The antibody may be used in several immunochemical techniques including immunoblotting (~40 kDa) and immunoprecipitation.

AKT1S1, also named proline-rich Akt-substrate of 40 kDa (PRAS40), is a raptor binding protein that inhibits mTORC1 kinase activity. The rapamycin-sensitive mTORC1 consists of mTOR, raptor, mLST8 and AKT1S1, and controls protein translation. AKT1S1 contains a TOR signaling (TOS) motif that mediates its binding to mTORC1. AKT1S1 is involved in the PI3K-Akt/PKB survival pathway. Phosphorylation of AKT1S1 by Akt and mTORC1 disrupts the binding between mTORC1 and AKT1S1, relieves the inhibitory effect of AKT1S1 on mTORC1 activity, and leads to the binding of AKT1S1 to 14-3-3, a cytosolic anchor protein. The binding of AKT1S1 to 14-3-3 requires amino acids and insulin, and is partially inhibited by rapamycin.¹⁻⁵

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, 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 at -20°C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, 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 concentration of 5-10 µg/mL is recommended using whole extracts of human MDA-MB-231 cells.

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

References

1. Kovacina, K.S., et al., *J. Biol. Chem.*, **278**, 10189-10194 (2003).
2. Fonseca, B.D., et al., *J. Biol. Chem.*, **282**, 24514-24524 (2007).
3. Wang, L., et al., *J. Biol. Chem.*, **282**, 20036-20044 (2007).
4. Sancak, Y., et al., *Mol. Cell*, **25**, 903-915 (2007).
5. Nascimento, E.B., and Ouwens, D.M., *Arch. Physiol. Biochem.*, **115**, 163-175 (2009).

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