Product Information

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Anti-RAE1 (C-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **R2905**

Anti-RAE1 (C-terminal) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 349-366 of human RAE1 (GeneID: 8480, also known as MRNP41), conjugated to KLH via an N-terminal added cysteine residue. The corresponding sequence is identical in rat and mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-RAE1 (C-terminal) specifically recognizes human, mouse, and rat RAE1 (43 kDa) by immunoblotting. Staining of the RAE1 band in immunoblotting is specifically inhibited by the immunizing peptide.

RAE1 (RNA export 1, also known as mRNA-binding protein 41 kDa) is a constituent of the mRNA export machinery that interacts with both mRNAs and nucleoporins to direct mRNAs through the nuclear pore complex. Mutations in RAE1 result in accumulation of poly(A)-containing mRNA in the nucleus confirming its involvement in RNA export.[1, 2] RAE1 also functions in bipolar spindle formation through its interaction with NuMA (Nuclear Mitotic Apparatus protein) and its binding to microtubules.[3] Depletion of RAE1 from extracts or cells severely inhibits mitotic spindle assembly.[4] RAE1 and Nup98 form a complex with cdh1 and anaphase-promoting complex (APC) in early mitosis and specifically inhibit APC (Cdh1)-mediated ubiquitination of securin. Mice mutated for both Rae1 and Nup98 results in premature separation of sister chromatids, severe aneuploidy and untimely degradation of securin. Dissociation of Rae1 and Nup98 from APC (Cdh1) coincided with the release of the mitotic checkpoint protein BubR1 from Cdc20-activated APC at the metaphase to anaphase transition.[5, 6] RAE1 protein has a molecular weight of approximately 43 kDa and contains three-protein/protein domains named β-transducin/WD40 motifs. The human RAE1 has a high homology to *S.pombe* Rae1 and to Gle2 protein in *S.cerevisiae*. Furthermore, human RAE1 expressed in *S.pombe* cells functionally complemented a RAE1 mutation both for growth and mRNA export.

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 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 2-4 µg/mL is recommended using HEK-293T, and 1-2 µg/mL using 3T3 and RIN5 cell lysates.

Recommendation: for immunoblotting, we strongly advise diluting the antibody in PBS containing 0.5% non-fat dry milk and 0.05% TWEEN® 20.

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

References
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3. Wong, R.W., et al., *Proc. Natl. Acad. Sci. USA*, **103**, 19783-19787 (2006).
4. Blower, M.D., et al., *Cell*, **121**, 223-234 (2005).

5. Jeganathan, K.B., et al., *Nature*, **438**, 1036-1039 (2005).
6. Baker, D.J., et al., *Cell Mol. Life Sci*., **64**, 589-600 (2007).

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