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ProductInformation

Anti-RanGAP1 (C-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **R0155**

Product Description

Anti-RanGAP1 (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 573-587 located at the C-terminus of human RanGAP1 (GeneID: 5905) conjugated to KLH. This sequence is highly conserved (80% identity) in mouse RanGAP1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-RanGAP1 (C-terminal) recognizes human RanGAP1 (~65 kDa). Applications include immunoblotting and immunofluorescence. Staining of the RanGAP1 band in immunoblotting is specifically inhibited by the immunizing peptide.

The nuclear Ras-like GTPase Ran is required for nuclear transport of both proteins and mRNAs across the nuclear pore complex (NPC), and also in cell cycle control, mitotic spindle formation and post-mitotic nuclear assembly.[1] RanGAP1 (Ran GTPase Activating Protein 1, 65 kDa) is a key regulator of Ran activity, specifically inducing the GTPase activity of Ran.[2] Ran is also regulated by a chromatin-bound nucleotide exchange factor, RCC1, that keeps Ran in the active GTP-bound state. RanGAP1 is conjugated to the small ubiquitin-related modifier protein SUMO-1.[3] The activity of Ran GAP1 is not substantially altered by SUMO-1 modification. However, this modification promotes the association of RanGAP1 with the interphase NPC, through binding to the nucleoporin RanBP2 and to Ubc9.[4,5] The association of RanGAP1 with RanBP2 facilitates nuclear transport. The unmodified form of RanGAP1 (~65 kDa) is exclusively cytoplasmic, whereas the 90 kDa SUMO-1-modified form is associated with the cytoplasmic fibers of the NPC. During mitosis SUMO-1 modification has been shown to target RanGAP1 to the mitotic spindles and kinetochores.[6]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.
Antibody concentration: ~1 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 at –20 °C. 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 1-2 µg/ml is recommended using HEK-293T cells transfected with human RanGAP1.

Immunofluorescence: a working concentration of 5-10 µg/mL is recommended using HeLa cells.

Note: In order to obtain best results and assay sensitivity in different techniques and preparations we recommend determining optimal working concentrations by titration test.

References

1. Sazer, S., and Dasso, M., *J. Cell Sci.*, **113**, 1111-1118 (2000).
2. Bischoff, F.R., et al., *Proc. Natl. Acad. Sci. USA*, **92**, 1749-1753 (1995).
3. Matunis, M.J., et al., *J. Cell Biol.*, **135**, 1457-1470 (1996).
4. Joseph, J., et al., *Curr. Biol.*, **14**, 611-617 (2004).
5. Reverter, D., and Lima, C.D., *Nature*, **435**, 687-692 (2005).
6. Joseph, J., et al., J. *Cell Biol.*, **156**, 595-602 (2002).

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