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Product Information

Anti-phospho-RanGAP1 (pSer^{428})
produced in rabbit, affinity isolated antibody

Product Number **R5280**

Product Description

Anti-phospho-RanGAP1 (pSer^{428}) is produced in rabbit using as immunogen a synthetic phosphopeptide corresponding to a fragment (pSer^{428}) of human RanGAP1 (GeneID: 5905), conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-phospho-RanGAP1 (pSer^{428}) specifically recognizes human phospho-RanGAP1 (pSer^{428}) (not yet tested in other species). Applications include the detection of phospho-RanGAP1 (pSer^{428}) by immunoblotting (~60 kDa). Staining of the phospho-RanGAP1 band by immunoblotting is specifically inhibited by the phospho-RanGAP1 immunizing peptide but is not inhibited by the non-phosphopeptide RanGAP1.

The nuclear Ras-like GTPase Ran, is required for nuclear transport of both proteins and mRNAs across the nuclear pore complex (NPC), in cell cycle control, mitotic spindle formation, and post-mitotic nuclear assembly.[1] RanGAP1 (Ran GTPase Activating Protein 1) is a key regulator of Ran activity, by specifically inducing its GTPase activity.[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 RanGAP1 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] RanGAP1 is phosphorylated on residues Thr^{409}, Ser^{442}, and Ser^{428}.[6] Phosphorylation occurs before nuclear envelope breakdown and is maintained throughout mitosis. Phosphorylated RanGAP1 may recruit specific SUMO target proteins to RanBP2's catalytic domain.

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 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1.5–3.0 μg/mL is recommended using HEK-293T cell lysate expressing human RanGAP1.

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

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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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. Swaminathan, S. et al., *J. Cell Biol.*, **164**, 965-971 (2004).

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