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ProductInformation

Monoclonal Anti-RAP1 A/B
Clone R116
produced in mouse, purified immunoglobulin

Catalog Number **R1030**

Product Description

Monoclonal Anti-RAP1 A/B (mouse IgM isotype) is derived from the hybridoma R116 produced by the fusion of mouse myeloma cells (NS1 cells) and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to amino acids 26-40 of human RAP1 (GeneID: 5906, 5908), conjugated to KLH. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-RAP1 A/B recognizes human and hamster RAP1 A/B (~21 kDa). An additional band at 70 kDa may be detected in some preparations. The antibody may be used in ELISA, immunoblotting, and immunocytochemistry.

Ras-related proteins are p21 superfamily of proteins involved in cell growth and differentiation. The p21 protein RAP1, expressed in cells as one of two isoforms (RAP1A and RAP1B), acts as an antagonist of RAS and is capable of suppressing cellular transformation. Like all G proteins, RAP1 exists in an inactive guanine nucleotide diphosphate (GDP)-bound state and is activated when GDP is exchanged for guanine nucleotide triphosphate (GTP).[1-3] RAP1 is activated by a large variety of stimuli, including growth factors, neurotransmitters and cytokines. Second messengers like cAMP, diacylglycerol, and calcium are mediators of this activation. In many cells, active RAP1 changes its cellular location from endosomal membranes to the plasma membrane. RAP1 binds competitively to RASA thus interfering with its RAS effectors functions. It was also shown that ectopically expressed RAP1 could interact with the RAS effector RAF1 resulting in an inhibition of ERK activation. Furthermore, RAP1 mediates cAMP-induced ERK activation through the binding to, and activation of, B-raf, a close relative of RAF1.[1-3]

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 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 0.5-1 µg/mL is recommended using total cell extract of CHO cells.

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

References

1. Bos, J.L., et al., *Biochem. Soc. Trans.*, **31**, 83-86 (2003).
2. Stork, P.J.S., and Dillon, T.J., *Blood*, **106**, 2952-2961 (2005).
3. Fukuhra, S., et al., *J. Biochem. Mol. Biol.*, **39**, 132-139 (2006).

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