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ProductInformation

Monoclonal Anti-RAP1
Clone 4C8/1
produced in mouse, purified immunoglobulin

Catalog Number R8154

Product Description

Monoclonal Anti-RAP1 (mouse IgG2b isotype) is derived from the hybridoma 4C8/1 produced by the fusion of mouse myeloma cells (Sp2/0 Ag.14 cells) and splenocytes from BALB/c mice immunized with human RAP1. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-RAP1 recognizes human RAP1, ~47 kDa. The product is useful in ELISA and immunoblotting.

The length of telomers in eukaryotes maintains genome stability. Changes in telomer functions were found associated with aging and cancer. Telomers are composed of repetitive sequences that are maintained by telomerase, an enzyme complex containing a reverse transcriptase (hTRET), a template RNA (hTERC) and accessory factors (Est1 proteins). Telomerase is regulated in *cis* by proteins that bind to telomeric DNA. In addition there are proteins that bind along the length of the telomer like TRF1, TIN2, tankyrase and RAP1).[1,2]

A yeast 2-hybrid screen of HeLa cell cDNA library was used for the isolation of RAP1 protein, using telomeric repeat-binding factor-2 (TRF2) as bait. RAP1 protein contains 399 amino acids with a N-terminal BRCT domain and a central Myb-type helix-turn-helix motif. The protein also has an acidic C-terminus featuring a 33 amino acid coiled-coil region and a bipartite nuclear localization signal. It is expressed ubiquitously, is located at telomeres and affects telomer length. In yeast, RAP1 binds telomeric DNA directly while in human it binds through TRF2. RAP1 was mapped to be associated with 294 different loci through the yeast genome. Although the DNA sequence in yeast recognized by RAP1 is found in both coding and intergenic sequences, it was highly specific to intergeninc regions that potentially may act as promoters.[3-4]

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: ~2 mg/mL.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous 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 0.1-0.2 µg/ml is determined using HeLa total cell extract.

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

References

1. Smogorzewska, A., and de Lange, T., *Ann. Rev. Biochem*. **73**, 177-208 (2004).
2. de Lange, T., *Genes Dev.*, **19**, 2100-2110 (2005).
3. Li, B., et al., *Cell*, **101**, 471-483 (2000).
4. Lieb, J.D., et al., *Nature Genet*., **29**, 100 (2001).

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