3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Monoclonal Anti-c-K-Ras, clone 234-4.2
produced in mouse, purified immunoglobulin

Catalog Number **R3400**

Product Description

Monoclonal Anti-c-K-Ras (mouse IgG2aκ isotype) is derived from the 234-4.2 hybridoma produced by the fusion of Ag8.653 myeloma cells and splenocytes from an immunized mouse. Recombinant p21 protein was used as immunogen. The antibody is purified using either Protein A or Protein G.

Monoclonal Anti-c-K-Ras reacts with c- and v-K-*ras* p21. It crossreacts with cH-Ras and cN-Ras in blots. The level of expression of p21 Ras is variable in different tissues This antibody reacts with human, mouse, and rat. Other species have not been tested. The antibody may be used for immunohistochemisty on frozen or paraffin-embedded sections, immunoprecipitation, and immunoblotting.[1]

Ras proteins are signal-transducing, guanine nucleotide-binding proteins that appear to function as a branchpoint in signal transduction. Ras coordinates the activity of multiple signaling pathways, regulating diverse cellular functions including cell growth, differentiation and apoptosis. The human ras gene family consists of three identified members which encode proteins of 21 kDa.[2] Human c-H-*ras* and c-K-*ras* are the cellular homologs of v-H- and v-K-*ras* originally isolated from Harvey and Kirsten strains of rat sarcoma viruses.[2-4] The third family member is designated c-N-*ras*.[5,6]

Normal cellular ras genes are referred to as proto-oncogenes and have the potential for activation to oncogenes by mutations occurring in codons 12, 13 and 61. Such mutated, activated and transforming ras genes have been identified and isolated from human tumors and cultured tumor cells.[7] Although the expression patterns of Ras proto-oncogene proteins in normal human tissues are known,[8] similar information for activated *ras* oncogene encoded p21s and their relevance to human disease diagnosis and prognosis remains to be determined.[9,10] K-*ras* mutations have been identified in several cancers to date including lung and colorectal tumors.[11,12]

Reagent

Supplied as 0.1-0.2 mg/ml of purified antibody in 0.05 M sodium phosphate buffer, pH 7.5 containing <0.1% sodium azide and 0.2% gelatin.

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

Store at 2-8 °C. Do not freeze. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Immunohistochemistry: the recommended concentration is 10 µg/ml (frozen or paraffin normal skin sections). Paraffin sections will require treatment with saponin (0.05% in water, 30 min.) or pepsin (0.1% in 0.1N HCl, 10-20 min.) at room temperature.

Immunoblotting: the recommended concentration is 5 µg/ml with 1% gelatin following a concentration step.[1]

For immunoprecipitation from lysates of ^{35}S-Met labeled Y1 and SW 480 cells, use 5µg antibody/sample with 45 µl Protein A agarose

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

References

1. Palejwala, S., and Goldsmith, L.T., *BioTechniques*, **11**, 606 (1991).
2. Shih, T.Y., et al., *Nature*, **287**, 686 (1980).
3. Ellis, R.W., et al., *Nature,* **292**, 506 (1981).
4. Coffin, J.M., et al., *J. Virol.*, **40**, 953 (1981).
5. Shimizu, K., et al., *Proc. Natl. Acad. Sci. USA*, **80**, 2112 (1983).
6. Taparowsky, E., et al., *Cell*, **34**, 581 (1983).

7. Bos, J.L., *Cancer Res*., **49**, 4682 (1989).
8. Furth, M.E., et al., *J. Virol*., **43**, 294 (1982).
9. Sidransky, D., et al., *Science,* **256**, 102 (1992).
10. Kraus, M.H., et al., *Proc. Natl. Acad. Sci. USA*, **81**, 5384 (1984).
11. Mizuuchi, H.,*et al., Cancer Res*. **52**, 2777 (1992).
12. Shaw, P., et al., *Oncongene*, **6**, 2121 (1991).

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