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M-Ras (C-8): sc-518225

BACKGROUND

The mammalian c-H-, c-K- and N-Ras proto-oncogenes encode proteins that are ubiquitously expressed in vertebrate cells. c-H- and c-K-Ras are cellular homologs of the v-H- and v-K-Ras sequences originally isolated from the Harvey and Kirsten strains of rat sarcoma virus. p21Ras-encoded proteins bind GDP and GTP with high affinity and possess a low level intrinsic GTPase activity that can be stimulated over 100-fold by interaction with cytosolic GTPase activating protein (GAP), a potential effector for Ras p21 function. Point mutations at amino acids 12, 13, 59 and 61 within domains responsible for GTP binding and hydrolysis activate Ras proteins to their oncogenic form and block the ability of their GTPase activities to be stimulated by GAP. M-Ras has been identified as a GTPase that shares structural similarities to the Ras family proteins. M-Ras is thought to play a role in reorganization of the Actin cytoskeleton.

REFERENCES

1. Barbacid, M. 1987. ras genes. *Ann. Rev. Biochem.* 56: 779-827.
2. Shih, T.Y., et al. 1980. Guanine nucleotide-binding and autophosphorylating activities associated with the p21^{src} protein of Harvey murine sarcoma virus. *Nature* 287: 686-691.
3. Ellis, R.W., et al. 1981. The p21 src genes of Harvey and Kirsten sarcoma viruses originate from divergent members of a family of normal vertebrate genes. *Nature* 292: 506-511.
4. Trahey, M. and McCormick, F. 1987. A cytoplasmic protein stimulates normal N-ras p21 GTPase, but does not affect oncogenic mutants. *Science* 238: 542-545.
5. Cales, C., et al. 1988. The cytoplasmic protein GAP is implicated as the target for regulation by the ras gene product. *Nature* 332: 548-551.
6. Adari, H., et al. 1988. Guanosine triphosphatase activating protein (GAP) interacts with the p21 ras effector binding domain. *Science* 240: 518-521.

CHROMOSOMAL LOCATION

Genetic locus: MRAS (human) mapping to 3q22.3.

SOURCE

M-Ras (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 166-188 of M-Ras of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

M-Ras (C-8) is available conjugated to agarose (sc-518225 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518225 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518225 PE), fluorescein (sc-518225 FITC), Alexa Fluor® 488 (sc-518225 AF488), Alexa Fluor® 546 (sc-518225 AF546), Alexa Fluor® 594 (sc-518225 AF594) or Alexa Fluor® 647 (sc-518225 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518225 AF680) or Alexa Fluor® 790 (sc-518225 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

M-Ras (C-8) is recommended for detection of M-Ras of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for M-Ras siRNA (h): sc-41857, M-Ras shRNA Plasmid (h): sc-41857-SH and M-Ras shRNA (h) Lentiviral Particles: sc-41857-V.

Molecular Weight of M-Ras: 29 kDa.

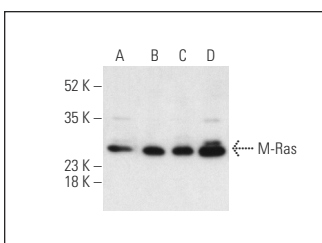
Positive Controls: THP-1 cell lysate: sc-2238, PC-3 cell lysate: sc-2220 or A549 cell lysate: sc-2413.

RECOMMENDED SECONDARY REAGENTS

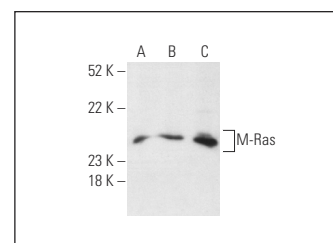
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



M-Ras (C-8): sc-518225. Western blot analysis of M-Ras expression in THP-1 (A), PC-3 (B), A549 (C) and HCT-116 (D) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



M-Ras (C-8): sc-518225. Western blot analysis of M-Ras expression in PC-3 (A), A549 (B) and HCT-116 (C) whole cell lysates. Detection reagent used: m-IgG_κ BP-HRP: sc-516102.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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