SANTA CRUZ BIOTECHNOLOGY, INC.

GAP1^{m} (15): sc-135916

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ras p21 can exist in either a physiologically quiescent GDP-binding state or a GTP-binding signal-emitting state. Interaction of Ras p21 with GTPase activating protein (GAP) can increase the rate of hydrolysis of Ras p21-bound GTP by as much as 1,000-fold. In mitogenically activated and tyrosine kinase-transformed cells, Ras GAP forms a complex with a protein designated p190. At its amino terminus, p190 contains sequence motifs characteristic of all known GTPases, whereas the carboxy terminus contains sequences similar to those found in the Bcr gene product, n-chimerin and Rho GAP, all of which exhibit intrinsic GAP activity. Gap1^{m} is an additional protein with GTPase activating activity. Gap1^{m} contains a GAP catalytic domain, a phospholipid-binding region and a domain that shares homology with a unique domain of Btk. Gap1^{m} is most highly expressed in brain, placenta and kidney.

REFERENCES

1. Barbacid, M. 1987. Ras genes. Annu. Rev. Biochem. 56: 779-827.
2. Trahey, M. and McCormick, F. 1987. A cytoplasmic protein stimulates normal N-Ras p21 GTPase, but does not affect oncogenic mutants. Science 242: 1697-1700.
3. Vogel, U.S., Dixon, R.A.F., Schaber, M.D., Diehl, R.E., Marshall, M.S., Scolnick, E.M., Sigal, I.S. and Gibbs, J.B. 1988. Cloning of bovine GAP and its interaction with oncogenic Ras p21. Nature 335: 90-93
4. Bos, J.L. 1988. Ras oncogenes in human cancer: a review. Cancer Res. 49: 4682-4689.
5. Sanders, D.A. 1990. A guide to the low molecular weight GTPases. Cell Growth Differ. 1: 251-258.
6. Bourne, H.R., Sanders, D.A. and McCormick, F. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. Nature 348: 125-132.
7. Settleman, J., Narasimhan, V., Foster, L.C. and Weinberg, R.A. 1992. Molecular cloning of cDNAs encoding the GAP-associated protein p190: implications for a signaling pathway from Ras to the nucleus. Cell 69: 539-549.

CHROMOSOMAL LOCATION

Genetic locus: RASA2 (human) mapping to 3q23; Rasa2 (mouse) mapping to 9 E3.3.

SOURCE

GAP1^{m} (15) is a mouse monoclonal antibody raised against amino acids 20-200 of GAP1^{m} of rat origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

GAP1^{m} (15) is recommended for detection of GAP1^{m} of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

Suitable for use as control antibody for GAP1^{m} siRNA (h): sc-41704, GAP1^{m} siRNA (m): sc-41705, GAP1^{m} shRNA Plasmid (h): sc-41704-SH, GAP1^{m} shRNA Plasmid (m): sc-41705-SH, GAP1^{m} shRNA (h) Lentiviral Particles: sc-41704-V and GAP1^{m} shRNA (m) Lentiviral Particles: sc-41705-V.

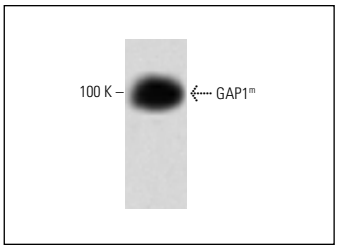
Molecular Weight of GAP1^{m}: 102 kDa.

Positive Controls: rat brain extract: sc-2392 or A-431 whole cell lysate: sc-2201.

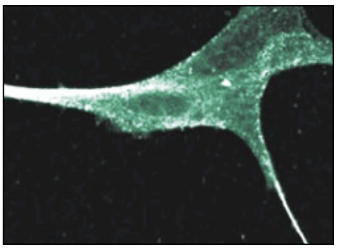
RECOMMENDED SUPPORT REAGENTS

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) 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



GAP1^{m} (15): sc-135916. Western blot analysis of GAP1^{m} expression in rat brain tissue extract.



GAP1^{m} (15): sc-135916. Immunofluorescence staining of FHS cells showing membrane localization.

RESEARCH USE

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

PROTOCOLS

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