

oligophrenin-1 (G-6): sc-376038

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 1000-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. Oligophrenin-1 is an additional protein with GTPase activating activity. Oligophrenin-1 is a RhoGAP protein that stimulates GTP hydrolysis of Rho subfamily members and is involved in cell migration, morphogenesis and axon outgrowth.

REFERENCES

1. Barbacid, M. 1987. Ras genes. *Annu. Rev. Biochem.* 56: 779-827.
2. Trahey, M., et al. 1987. A cytoplasmic protein stimulates normal N-Ras p21 GTPase, but does not affect oncogenic mutants. *Science* 238: 542-545.
3. Sanders, D.A. 1990. A guide to the low molecular weight GTPases. *Cell Growth Differ.* 1: 251-258.
4. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. *Nature* 348: 125-132.
5. Settleman, J., et al. 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.
6. Billuart, P., et al. 1998. Oligophrenin 1 encodes a rho-GAP protein involved in X-linked mental retardation. *Pathol. Biol.* 46: 678.

CHROMOSOMAL LOCATION

Genetic locus: OPHN1 (human) mapping to Xq12; Ophn1 (mouse) mapping to X C3.

SOURCE

oligophrenin-1 (G-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 775-802 at the C-terminus of oligophrenin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376038 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

oligophrenin-1 (G-6) is recommended for detection of oligophrenin-1 of mouse, rat and 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).

oligophrenin-1 (G-6) is also recommended for detection of oligophrenin-1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for oligophrenin-1 siRNA (h): sc-36125, oligophrenin-1 siRNA (m): sc-36126, oligophrenin-1 shRNA Plasmid (h): sc-36125-SH, oligophrenin-1 shRNA Plasmid (m): sc-36126-SH, oligophrenin-1 shRNA (h) Lentiviral Particles: sc-36125-V and oligophrenin-1 shRNA (m) Lentiviral Particles: sc-36126-V.

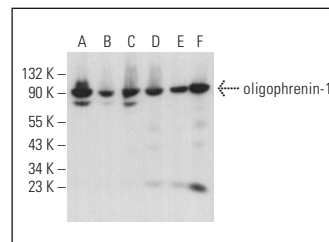
Molecular Weight of oligophrenin-1: 91 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, SK-MEL-24 whole cell lysate: sc-364259 or MCF7 whole cell lysate: sc-2206.

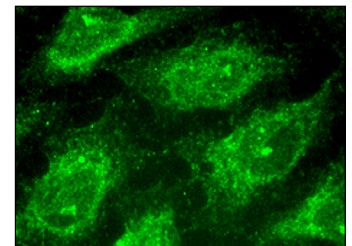
RECOMMENDED SUPPORT REAGENTS

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) 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



oligophrenin-1 (G-6): sc-376038. Western blot analysis of oligophrenin-1 expression in A-431 (A), SK-MEL-24 (B), MCF7 (C), NIH/3T3 (D), EOC 20 (E) and A-10 (F) whole cell lysates.



oligophrenin-1 (G-6): sc-376038. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

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.