

oligophrenin-1 (A-12): sc-374330

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, η -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. and McCormick, F. 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.

CHROMOSOMAL LOCATION

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

SOURCE

oligophrenin-1 (A-12) 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 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

oligophrenin-1 (A-12) is available conjugated to agarose (sc-374330 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374330 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374330 PE), fluorescein (sc-374330 FITC), Alexa Fluor[®] 488 (sc-374330 AF488), Alexa Fluor[®] 546 (sc-374330 AF546), Alexa Fluor[®] 594 (sc-374330 AF594) or Alexa Fluor[®] 647 (sc-374330 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374330 AF680) or Alexa Fluor[®] 790 (sc-374330 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374330 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

oligophrenin-1 (A-12) 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 μ g per 100-500 μ g 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 (A-12) is also recommended for detection of oligophrenin-1 in additional species, including equine 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.

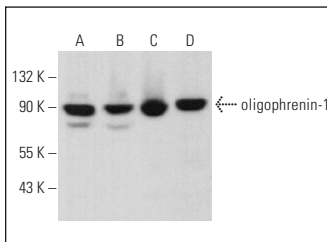
Molecular Weight of oligophrenin-1: 91 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MCF7 whole cell lysate: sc-2206 or NIH/3T3 whole cell lysate: sc-2210.

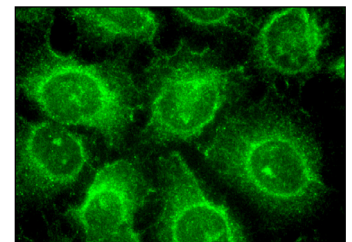
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 (A-12): sc-374330. Western blot analysis of oligophrenin-1 expression in A-431 (A), MCF7 (B), NIH/3T3 (C) and A-10 (D) whole cell lysates.



oligophrenin-1 (A-12): sc-374330. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Di Prisco, G.V., et al. 2014. Translational control of mGluR-dependent long-term depression and object-place learning by eIF2 α . *Nat. Neurosci.* 17: 1073-1082.

STORAGE

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