

# 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 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. and McCormick, F. 1987. A cytoplasmic protein stimulates normal N-ras p21 GTPase, but does not affect oncogenic mutants. *Science* 242: 1697-1700.
3. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. *Nature* 348: 125-132.

## 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 µg IgG<sub>1</sub> 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 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374330 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374330 P, (100 µg 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 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 (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.

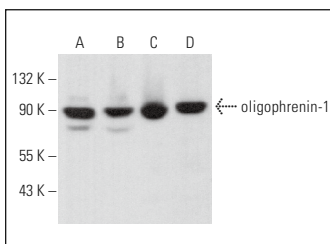
Molecular Weight of oligophrenin-1: 91 kDa.

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

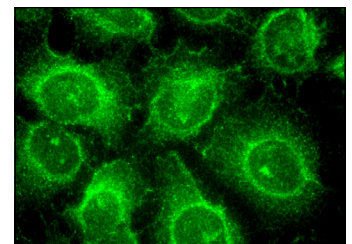
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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 (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 eIF2α. *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.