

# Ral A/B (E-7): sc-374582

## BACKGROUND

Ral A and Ral B constitute a distinct subfamily of Ras-related GTPases (i.e., GDP/GTP binding proteins). Ral proteins are activated by a unique nucleotide exchange factor, Ral GDS, and deactivated by a distinct GTPase-activating protein. Unlike Ras proteins, Ral A and Ral B fail to induce transformed foci when activated variants are expressed in various recipient cells. A potential downstream target of Ral, designated Ral BP-1, has been shown to contain a Rho-GTPase-activating domain. This Rho-GTPase-activating domain interacts preferentially with the Rho family member Cdc42. A Ras/Ral signaling pathway has been reported to mediate phospholipase D (PLD) activation by v-Src, thus indicating PLD as another downstream target of Ral A.

## REFERENCES

1. Wildey, G.M., et al. 1993. Isolation of cDNA clones and tissue expression of rat Ral A and Ral B GTP-binding proteins. *Biochem. Biophys. Res. Commun.* 194: 552-559.
2. Hofer, F., et al. 1994. Activated Ras interacts with the Ral guaninenucleotide dissociation stimulator. *Proc. Natl. Acad. Sci. USA* 91: 11089-11093.
3. Spaargaren, M. and Bischoff, J.R. 1994. Identification of the guanine nucleotide dissociation stimulator for Ral as a putative effector molecule of R-Ras, H-Ras, K-Ras, and Rap. *Proc. Natl. Acad. Sci. USA* 91: 12609-12613.
4. Jiang, H., et al. 1995. Involvement of Ral GTPase in v-Src-induced phospholipase D activation. *Nature* 378: 409-412.
5. Cantor, S.B., et al. 1995. Identification and characterization of Ral-binding protein 1, a potential downstream target of Ral GTPases. *Mol. Cell. Biol.* 15: 4578-4584.
6. Jullien-Flores, V., et al. 1995. Bridging Ral GTPase to Rho pathways. RLIP76, a Ral effector with CDC42/Rac GTPase-activating protein activity. *J. Biol. Chem.* 270: 22473-22477.

## CHROMOSOMAL LOCATION

Genetic locus: RALA (human) mapping to 7p14.1, RALB (human) mapping to 2q14.2; Rala (mouse) mapping to 13 A2, Ralb (mouse) mapping to 1 E2.3.

## SOURCE

Ral A/B (E-7) is a mouse monoclonal antibody raised against amino acids 161-206 mapping at the C-terminus of Ral A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

Ral A/B (E-7) is recommended for detection of Ral A and B 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).

Ral A/B (E-7) is also recommended for detection of Ral A and B in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Ral A: 28 kDa.

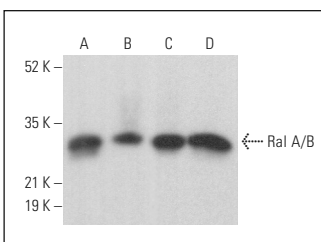
Molecular Weight of Ral B: 23 kDa.

Positive Controls: ARPE-19 whole cell lysate: sc-364357, NIH/3T3 whole cell lysate: sc-2210 or C6 whole cell lysate: sc-364373.

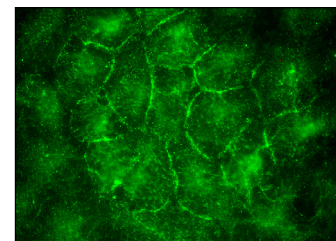
## RECOMMENDED SUPPORT REAGENTS

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



Ral A/B (E-7): sc-374582. Western blot analysis of Ral A/B expression in ARPE-19 (A), HUV-EC-C (B), NIH/3T3 (C) and C6 (D) whole cell lysates.



Ral A/B (E-7): sc-374582. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

1. Sun, M.H., et al. 2021. Ral GTPase is essential for Actin dynamics and Golgi apparatus distribution in mouse oocyte maturation. *Cell Div.* 16: 3.

## RESEARCH USE

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