

# RAI3 (F-3): sc-373824

## BACKGROUND

Retinoic acid-induced protein 3 (RAI3) is a transmembrane G protein-coupled receptor that affects many essential biological processes including embryogenesis, cell growth, differentiation, and apoptosis. RAI3 may also be involved in maintaining homeostasis of epithelial cells. Retinoic acid receptors directly regulate RAI3 during its transcription in embryonal carcinoma differentiation. RAI3 expression is upregulated in most tumor cell lines that express mutant p53, suggesting that p53 interacts with the promoter of RAI3 and represses its expression at the beginning of apoptosis. RAI3 is a potential molecular target for diagnosing breast cancer, and selective suppression of signals from RAI3 may have a place in breast cancer treatments.

## REFERENCES

- Cheng, Y., et al. 1998. Molecular cloning and characterization of a novel retinoic acid-inducible gene that encodes a putative G protein-coupled receptor. *J. Biol. Chem.* 273: 35008-35015.
- Brauner-Osborne, H., et al. 2000. Sequence and expression pattern of a novel human orphan G protein-coupled receptor, GPRC5B, a family C receptor with a short amino-terminal domain. *Genomics* 65: 121-128.
- Robbins, M.J., et al. 2000. Molecular cloning and characterization of two novel retinoic acid-inducible orphan G protein-coupled receptors (GPRC5B and GPRC5C). *Genomics* 67: 8-18.
- Hofmann, W.K., et al. 2002. Characterization of gene expression of CD34+ cells from normal and myelodysplastic bone marrow. *Blood* 100: 3553-3560.

## CHROMOSOMAL LOCATION

Genetic locus: GPRC5A (human) mapping to 12p13.1.

## SOURCE

RAI3 (F-3) is a mouse monoclonal antibody raised against amino acids 258-357 mapping at the C-terminus of RAI3 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.

## APPLICATIONS

RAI3 (F-3) is recommended for detection of RAI3 of 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).

Suitable for use as control antibody for RAI3 siRNA (h): sc-61440, RAI3 shRNA Plasmid (h): sc-61440-SH and RAI3 shRNA (h) Lentiviral Particles: sc-61440-V.

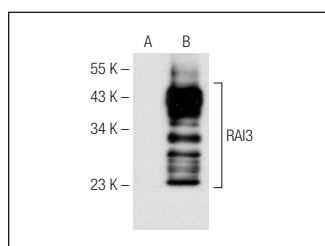
Molecular Weight of RAI3: 32 kDa.

Positive Controls: human RAI3 transfected HEK293T whole cell lysate.

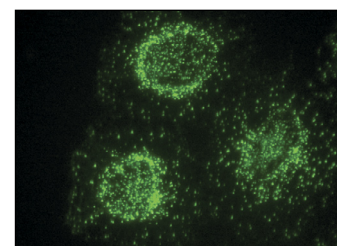
## RECOMMENDED SUPPORT REAGENTS

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



RAI3 (F-3): sc-373824. Western blot analysis of RAI3 expression in non transfected (A) and human RAI3 transfected (B) HEK293T whole cell lysates.



RAI3 (F-3): sc-373824. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic vesicles localization.

## SELECT PRODUCT CITATIONS

- Wang, J., et al. 2016. GPRC5A suppresses protein synthesis at the endoplasmic reticulum to prevent radiation-induced lung tumorigenesis. *Nat. Commun.* 7: 11795.
- Huang, Z., et al. 2020. GPRC5A reduction contributes to pollutant benzo[a]pyrene injury via aggravating murine fibrosis, leading to poor prognosis of IIP patients. *Sci. Total Environ.* 739: 139923.
- Fang, W., et al. 2023. Upregulated GPRC5A disrupting the Hippo pathway promotes the proliferation and migration of pancreatic cancer cells via the cAMP-CREB axis. *Discov. Oncol.* 14: 17.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

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