

PHLDA3 (A-10): sc-518201

BACKGROUND

PHLDA3 (pleckstrin homology-like domain, family A, member 3), also known as TIH1, is a 127 amino acid protein that contains one PH domain and is expressed in a variety of tissues, with particularly low expression in spleen and liver tissue. Sharing nearly 100% sequence homology with its mouse counterpart, PHLDA3 functions as a tumor suppressor that inhibits Akt signaling and is required for p53-dependent apoptosis. The gene encoding PHLDA3 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Maruyama, K. and Sugano, S. 1994. Oligo-capping: a simple method to replace the cap structure of eukaryotic mRNAs with oligoribonucleotides. *Gene* 138: 171-174.
2. Frank, D., Mendelsohn, C.L., Ciccone, E., Svensson, K., Ohlsson, R. and Tycko, B. 1999. A novel pleckstrin homology-related gene family defined by *lpl/Tssc3*, *TDAG51*, and *Tih1*: tissue-specific expression, chromosomal location, and parental imprinting. *Mamm. Genome* 10: 1150-1159.
3. Gottlieb, T.M., Leal, J.F., Seger, R., Taya, Y. and Oren, M. 2002. Cross-talk between Akt, p53 and Mdm2: possible implications for the regulation of apoptosis. *Oncogene* 21: 1299-1303.
4. Kawase, T., Ohki, R., Shibata, T., Tsutsumi, S., Kamimura, N., Inazawa, J., Ohta, T., Ichikawa, H., Aburatani, H., Tashiro, F. and Taya, Y. 2009. PH domain-only protein PHLDA3 is a p53-regulated repressor of Akt. *Cell* 136: 535-550.
5. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 607054. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: PHLDA3 (human) mapping to 1q32.1; *Phlda3* (mouse) mapping to 1 E4.

SOURCE

PHLDA3 (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-34 of PHLDA3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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.

APPLICATIONS

PHLDA3 (A-10) is recommended for detection of PHLDA3 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); may cross react with PHLDA1/TDAG51.

Suitable for use as control antibody for PHLDA3 siRNA (h): sc-78630, PHLDA3 siRNA (m): sc-152226, PHLDA3 shRNA Plasmid (h): sc-78630-SH, PHLDA3 shRNA Plasmid (m): sc-152226-SH, PHLDA3 shRNA (h) Lentiviral Particles: sc-78630-V and PHLDA3 shRNA (m) Lentiviral Particles: sc-152226-V.

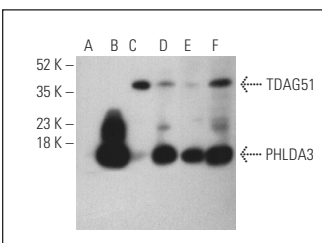
Molecular Weight of PHLDA3: 14 kDa.

Positive Controls: TDAG51 (m): 293T Lysate: sc-123964, RT-4 whole cell lysate: sc-364257 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



PHLDA3 (A-10): sc-518201. Western blot analysis of PHLDA3 and TDAG51 expression in non-transfected 293T: sc-117752 (A), human PHLDA3 transfected 293T: sc-117181 (B), mouse TDAG51 transfected 293T: sc-123964 (C), RT-4 (D), C2C12 (E) and C6 (F) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408

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.