

TSSC3 (5E3): sc-517086

BACKGROUND

TSSC3 (tumor-suppressing STF cDNA 3 protein), also known as PHLDA2 (pleckstrin homology-like domain family A member 2), BWR1C, HLDA2 or IPL, is a cytoplasmic protein that is involved in fetal and placental growth. Expressed at high levels in placenta and adult prostate and at low levels in liver, lung and brain, TSSC3 is an apoptosis-related protein that acts as a negative growth regulator and is expressed during normal human development. TSSC3, a protein expressed from the maternal allele, is imprinted on placenta, liver and fetal tissues during embryogenesis and is removed once development is complete. Defects or alterations in the gene encoding TSSC3 are associated with several afflictions such as lung, ovarian and breast cancer, rhabdomyosarcoma, Beckwith-Wiedemann syndrome, Wilms tumor, low birth weight and adrenocortical carcinoma.

REFERENCES

1. Lee, M.P., et al. 1999. Two novel genes in the center of the 11p15 imprinted domain escape genomic imprinting. *Hum. Mol. Genet.* 8: 683-690.
2. Frank, D., et al. 2002. Placental overgrowth in mice lacking the imprinted gene *Ipl*. *Proc. Natl. Acad. Sci. USA* 99: 7490-7495.
3. Salas, M., et al. 2004. Placental growth retardation due to loss of imprinting of *Phlda2*. *Mech. Dev.* 121: 1199-1210.
4. Kato, H., et al. 2005. Differential diagnosis between complete and partial mole by TSSC3 antibody completely correlates to DNA diagnosis. *Diagn. Mol. Pathol.* 14: 164-169.
5. McMinn, J., et al. 2006. Unbalanced placental expression of imprinted genes in human intrauterine growth restriction. *Placenta* 27: 540-549.
6. Kim, H.S., et al. 2007. Hypoxia regulates the expression of PHLDA2 in primary term human trophoblasts. *Placenta* 28: 77-84.
7. Apostolidou, S., et al. 2007. Elevated placental expression of the imprinted PHLDA2 gene is associated with low birth weight. *J. Mol. Med.* 85: 379-387.
8. Tang, K.F., et al. 2007. Upregulation of PHLDA2 in Dicer knockdown HEK293 cells. *Biochim. Biophys. Acta* 1770: 820-825.

CHROMOSOMAL LOCATION

Genetic locus: PHLDA2 (human) mapping to 11p15.4.

SOURCE

TSSC3 (5E3) is a mouse monoclonal antibody raised against amino acids 1-110 representing partial length TSSC3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} 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

TSSC3 (5E3) is recommended for detection of TSSC3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

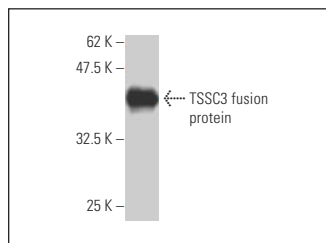
Suitable for use as control antibody for TSSC3 siRNA (h): sc-63175, TSSC3 shRNA Plasmid (h): sc-63175-SH and TSSC3 shRNA (h) Lentiviral Particles: sc-63175-V.

Molecular Weight of TSSC3: 17 kDa.

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



TSSC3 (5E3): sc-517086. Western blot analysis of human recombinant TSSC3 fusion protein.

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.