SANTA CRUZ BIOTECHNOLOGY, INC.

PCTAIRE-1 (G-1): sc-166242

BACKGROUND

Cell cycle progression is controlled in part by a family of cyclin proteins and cyclin dependent kinases (Cdks). Cdk proteins work in concert with cyclins to phosphorylate key substrates involved in cell cycle progression. Another family of proteins, Cdk inhibitors, also play a role in regulating the cell cycle by binding to cyclin-Cdk complexes and modulating their activity. Members of the Cdk family include Cdk2-Cdk8, PCTAIRE-1-3, PITALRE and PITSLRE. PCTAIRE-1, PCTAIRE-2 and PCTAIRE-3 comprise a subfamily of Cdc2-related serine/threonine kinases. PCTAIRE-1, which is expressed primarily in mammalian brain, interacts with a variety of proteins and is thought to be part of a multiple signal transduction cascade. PCTAIRE-2, also with expression in brain, may be important in terminally differentiated neurons. The human PCTAIRE-3 gene maps to chromosome 1q32.1.

REFERENCES

1. Okuda, T., et al. 1992. PCTAIRE-1 and PCTAIRE-3, two members of a novel Cdc2/Cdc28-related protein kinase gene family. Oncogene 7: 2249-2258.
2. Okuda, T., et al. 1994. Cloning of genomic loci and chromosomal localization of the human PCTAIRE-1 and -3 protein kinase genes. Genomics 21: 217-221.
3. Pines, J. 1994. The cell cycle kinases. Semin. Cancer Biol. 5: 305-313.
4. MacLachlan, T.K., et al. 1995. Cyclins, cyclin-dependent kinases and Cdk inhibitors: implications in cell cycle control and cancer. Crit. Rev. Eukaryot. Gene Expr. 5: 127-156.
5. Siebert, R., et al. 1996. Role of the cyclin-dependent kinase 4 and 6 inhibitor gene family p15, p16, p18 and p19 in leukemia and lymphoma. Leuk. Lymphoma 23: 505-520.
6. Dirks, P.B., et al. 1997. Current concepts in neuro-oncology: the cell cycle—a review. Neurosurgery 40: 1000-1013.
7. Sladeczek, F., et al. 1997. The Cdk-like protein PCTAIRE-1 from mouse brain associated with p11 and 14-3-3 proteins. Mol. Gen. Genet. 254: 571-577.

CHROMOSOMAL LOCATION

Genetic locus: CDK16 (human) mapping to Xp11.23; Cdk16 (mouse) mapping to X A1.3.

SOURCE

PCTAIRE-1 (G-1) is a mouse monoclonal antibody raised against amino acids 1-70 mapping at the N-terminus of PCTAIRE-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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

PCTAIRE-1 (G-1) is recommended for detection of PCTAIRE-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).

Suitable for use as control antibody for PCTAIRE-1 siRNA (h): sc-37584, PCTAIRE-1 siRNA (m): sc-37585, PCTAIRE-1 shRNA Plasmid (h): sc-37584-SH, PCTAIRE-1 shRNA Plasmid (m): sc-37585-SH, PCTAIRE-1 shRNA (h) Lentiviral Particles: sc-37584-V and PCTAIRE-1 shRNA (m) Lentiviral Particles: sc-37585-V.

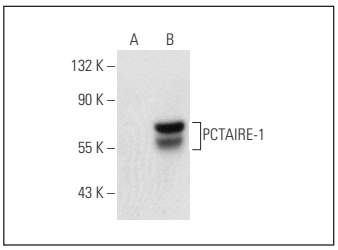
Molecular Weight of PCTAIRE-1: 54 kDa.

Positive Controls: PCTAIRE-1 (m2): 293T Lysate: sc-122443, 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



PCTAIRE-1 (G-1): sc-166242. Western blot analysis of PCTAIRE-1 expression in non-transfected: sc-117752 (**A**) and mouse PCTAIRE-1 transfected: sc-122443 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ramos, E., et al. 2013. Genetic variation in MKL2 and decreased downstream PCTAIRE-1 expression in extreme, fatal primary human microcephaly. Clin. Genet. 85: 423-432.

RESEARCH USE

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