SANTA CRUZ BIOTECHNOLOGY, INC.

PCTAIRE-3 (H-4): sc-393262

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: CDK18 (human) mapping to 1q32.1; Cdk18 (mouse) mapping to 1 E4.

SOURCE

PCTAIRE-3 (H-4) is a mouse monoclonal antibody raised against amino acids 11-69 mapping near the N-terminus of PCTAIRE-3 of mouse 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.

PCTAIRE-3 (H-4) is available conjugated to agarose (sc-393262 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393262 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393262 PE), fluorescein (sc-393262 FITC), Alexa Fluor® 488 (sc-393262 AF488), Alexa Fluor® 546 (sc-393262 AF546), Alexa Fluor® 594 (sc-393262 AF594) or Alexa Fluor® 647 (sc-393262 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393262 AF680) or Alexa Fluor® 790 (sc-393262 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

PCTAIRE-3 (H-4) is recommended for detection of PCTAIRE-3 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), immunohistochemistry (including paraffin-embedded sections) (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-3 siRNA (h): sc-37588, PCTAIRE-3 siRNA (m): sc-37589, PCTAIRE-3 shRNA Plasmid (h): sc-37588-SH, PCTAIRE-3 shRNA Plasmid (m): sc-37589-SH, PCTAIRE-3 shRNA (h) Lentiviral Particles: sc-37588-V and PCTAIRE-3 shRNA (m) Lentiviral Particles: sc-37589-V.

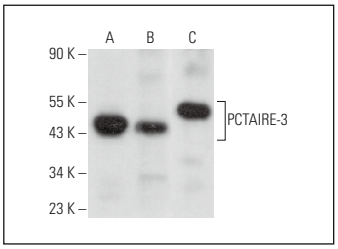
Molecular Weight of PCTAIRE-3: 54 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, mouse brain extract: sc-2253 or rat liver extract: sc-2395.

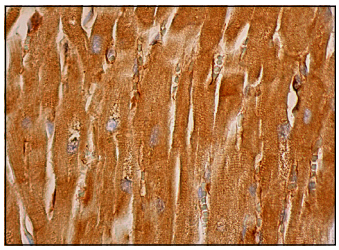
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PCTAIRE-3 (H-4): sc-393262. Western blot analysis of PCTAIRE-3 expression in KNRK whole cell lysate (**A**) and rat liver (**B**) and mouse brain (**C**) tissue extracts.



PCTAIRE-3 (H-4): sc-393262. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Pan, Y., et al. 2019. Cyclin-dependent kinase 18 promotes oligodendrocyte precursor cell differentiation through activating the extracellular signal-regulated kinase signaling pathway. Neurosci. Bull. 35: 802-814.

RESEARCH USE

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