

PCTAIRE-1 (C-16): sc-174

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.

CHROMOSOMAL LOCATION

Genetic locus: PCTK1 (human) mapping to Xp11.23; Pctk1 (mouse) mapping to X A1.3.

SOURCE

PCTAIRE-1 (C-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PCTAIRE-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-174 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PCTAIRE-1 (C-16) is recommended for detection of PCTAIRE-1 of mouse, rat and 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)], 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).

PCTAIRE-1 (C-16) is also recommended for detection of PCTAIRE-1 in additional species, including equine, canine, bovine and porcine.

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.

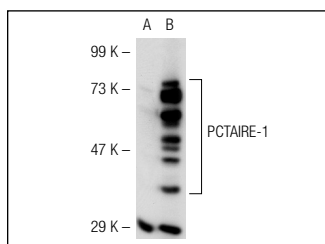
Molecular Weight of PCTAIRE-1: 54 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, PCTAIRE-1 (m2): 293T Lysate: sc-122443 or NIH/3T3 whole cell lysate: sc-2210.

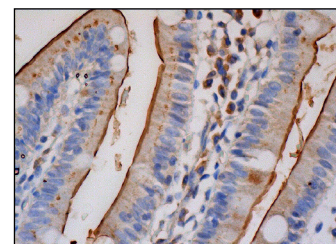
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), 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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



PCTAIRE-1 (C-16): sc-174. 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.



PCTAIRE-1 (C-16): sc-174. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing apical membrane and cytoplasmic staining of glandular cells and cytoplasmic staining of interstitial cells.

SELECT PRODUCT CITATIONS

- Hirose, T., et al. 1997. PCTAIRE-2, a Cdc2-related serine/threonine kinase, is predominantly expressed in terminally differentiated neurons. *Eur. J. Biochem.* 249: 481-488.
- Cheng, K., et al. 2002. PCTAIRE-1 interacts with p35 and is a novel substrate for Cdk5/p35. *J. Biol. Chem.* 277: 31988-31993.
- Palmer, K.J., et al. 2005. PCTAIRE protein kinases interact directly with the COPII complex and modulate secretory cargo transport. *J. Cell Sci.* 118: 3839-3847.
- Shehata, S.N., et al. 2012. Analysis of substrate specificity and cyclin Y binding of PCTAIRE-1 kinase. *Cell. Signal.* 24: 2085-2094.
- Mikolcovic, P., et al. 2012. Cyclin-dependent kinase 16/PCTAIRE kinase 1 is activated by cyclin Y and is essential for spermatogenesis. *Mol. Cell. Biol.* 32: 868-879.
- Perez-Chacon, G., et al. 2014. Indole-3-carbinol induces cMYC and IAP-family downmodulation and promotes apoptosis of Epstein-Barr virus (EBV)-positive but not of EBV-negative Burkitt's lymphoma cell lines. *Pharmacol. Res.* 89: 46-56.

STORAGE

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