SANTA CRUZ BIOTECHNOLOGY, INC.

CDKN3 (C-18): sc-475

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cyclin-dependent kinase inhibitor 3 (CDKN3), also designated Cdk2-associated dual specificity phosphatase, cyclin-dependent kinase interactor 1 (Cdi1), CIP2, KAP or KAP1, belongs to the protein-tyrosine phosphatase family. CDKN3, a cyclin-dependent kinase inhibitor, interacts and dephosphorylates Cdk2 kinase, which prevents Cdk2 kinase activation. CDKN3 is important in cell cycle regulation. It is a dual specificity phosphatase that is active toward substrates which contain phosphotyrosine or phosphoserine residues. CDKN3 does not interact with Cdk4, but can interact with other cyclin-dependent kinases such as Cdc2, Cdk2 and Cdk3. The gene encoding for the CDKN3 protein maps to chromosome 14q22.2. This gene has been noted to be mutated, overexpressed or deleted in many cancers. Defects in the CDKN3 gene may may be implicated in hepatocellular carcinoma (HCC).

CHROMOSOMAL LOCATION

Genetic locus: CDKN3 (human) mapping to 14q22.2.

SOURCE

CDKN3 (C-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of CDKN3 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-475 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CDKN3 (C-18) is recommended for detection of CDKN3 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)], 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).

CDKN3 (C-18) is also recommended for detection of CDKN3 in additional species, including canine.

Suitable for use as control antibody for CDKN3 siRNA (h): sc-43877, CDKN3 shRNA Plasmid (h): sc-43877-SH and CDKN3 shRNA (h) Lentiviral Particles: sc-43877-V.

Molecular Weight (predicted) of CDKN3: 24 kDa.

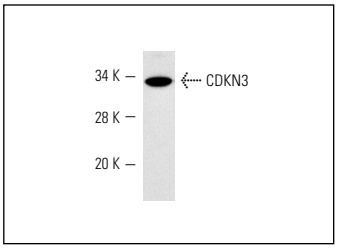
Molecular Weight (observed) of CDKN3: 34 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HL-60 whole cell lysate: sc-2209.

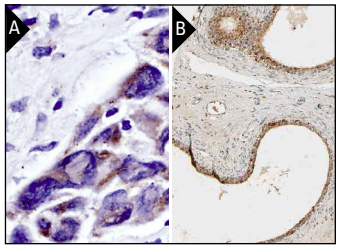
RESEARCH USE

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

DATA



CDKN3 (C-18): sc-475. Western blot analysis of CDKN3 expression in HeLa whole cell lysate.



CDKN3 (C-18): sc-475. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymus tissue showing nuclear staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Poon, R.Y., et al. 1995. Dephosphorylation of Cdk2 Thr 160 by the cyclin-dependent kinase-interacting phosphatase KAP in the absence of cyclin. Science 270: 90-93.
2. Poon, R.Y., et al. 1997. Generation of phosphorylated cyclin dependent kinase 2 and functional characterization of threonine 160 specific phosphatase KAP. Meth. Enzymol. 283: 283-292.
3. González-Fernández, L., et al. 2009. Identification of protein tyrosine phosphatases and dual-specificity phosphatases in mammalian spermatozoa and their role in sperm motility and protein tyrosine phosphorylation. Biol. Reprod. 80: 1239-1252.
4. Espinosa, A.M., et al. 2013. Mitosis is a source of potential markers for screening and survival and therapeutic targets in cervical cancer. PLoS ONE 8: e55975.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.