SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin I (H-279): sc-5547

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cyclins are the regulatory subunits of Cdc2 p34 and related cyclin-dependent kinases (Cdks) which play critical roles in the control of cell cycle progression. The catalytic subunit for cyclin A and B is Cdc2 p34 kinase. The Cdc2-cyclin B complex controls the G_2 to M transition whereas Cdc2-cyclin A regulates S phase progression. cyclin D1 accumulates during G_1 and associates with Cdk2, Cdk4 and Cdk5. cyclin E and Cdk2 interact during the G_1 to S transition. cyclin G contains a typical N terminal cyclin box and a carboxy terminal domain sequence homologous to the tyrosine phosphorylation site of the epidermal growth factor receptor. Cyclin G_2 shares 53% amino acid sequence identity with cyclin G_1. cyclin I shares highest sequence similarity to cyclins G and E and is most highly expressed in skeletal muscle, heart and brain.

REFERENCES

1. Pines, J., et al. 1990. Human cyclin A is Adenovirus E1A-associated protein p60 and behaves differently from cyclin B. Nature 346: 760-763.
2. Fang, F., et al. 1991. Evidence that the G_1-S and G_2-M transitions are controlled by different Cdc2 proteins in higher eukaryotes. Cell 66: 731-742.
3. Koff, A., et al. 1991. Human cyclin E, a new cyclin that interacts with two members of the Cdc2 gene family. Cell 66: 1217-1228.
4. Girard, F., et al. 1991. cyclin A is required for the onset of DNA replication in mammalian fibroblasts. Cell 67: 1169-1179.
5. Xiong, Y., et al. 1992. D type cyclins associate with multiple protein kinases and the DNA replication and repair factor PCNA. Cell 71: 505-514.
6. Tamura, K., et al. 1993. Cyclin G: a new mammalian cyclin with homology to fission yeast Cig1. Oncogene 8: 2113-2118.
7. Nakamura, T., et al. 1995. Cyclin I: a new mcyclin encoded by a gene isolated from human brain. Exp. Cell Res. 221: 534-542.
8. Horne, M.C., et al. 1996. Cyclin G_1 and cyclin G_2 comprise a new family of cyclins with contrasting issue-specific and cell cycle-regulated expressions. J. Biol. Chem. 271: 6050-6061.

CHROMOSOMAL LOCATION

Genetic locus: CCNI (human) mapping to 4q21.1; Ccni (mouse) mapping to 5 E2.

SOURCE

cyclin I (H-279) is a rabbit polyclonal antibody raised against amino acids 1-279 mapping at the N-terminus of cyclin I 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.

STORAGE

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

APPLICATIONS

cyclin I (H-279) is recommended for detection of cyclin I 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).

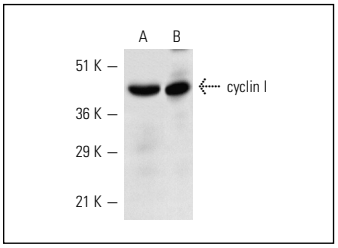
cyclin I (H-279) is also recommended for detection of cyclin I in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cyclin I siRNA (h): sc-35141, cyclin I siRNA (m): sc-35142, cyclin I shRNA Plasmid (h): sc-35141-SH, cyclin I shRNA Plasmid (m): sc-35142-SH, cyclin I shRNA (h) Lentiviral Particles: sc-35141-V and cyclin I shRNA (m) Lentiviral Particles: sc-35142-V.

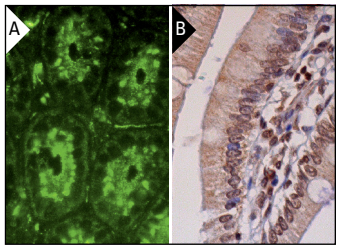
Molecular Weight of cyclin I: 47 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat skeletal muscle tissue: sc-364810.

DATA



cyclin I (H-279): sc-5547. Western blot analysis of cyclin I expression in rat skeletal muscle (**A**) and mouse brain (**B**) extracts.



cyclin I (H-279): sc-5547. Immunofluorescence staining of normal mouse intestine frozen section showing nuclear and cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Mazan-Mamczarz, K., et al. 2005. En masse analysis of nascent translation using microarrays. BioTechniques 39: 61-62, 64, 66-67.
2. Palmieri, D., et al. 2008. Procollagen I COOH-terminal fragment induces VEGF-A and CXCR4 expression in breast carcinoma cells. Exp. Cell Res. 314: 2289-2298.
3. Cybulski, M., et al. 2012. Cyclin I correlates with VEGFR-2 and cell proliferation in human epithelial ovarian cancer. Gynecol. Oncol. 127: 217-222.

RESEARCH USE

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

PROTOCOLS

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