SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin L1 (Q-1): sc-81843

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell proliferation is controlled at specific stages of the cell cycle by distinct protein kinase complexes. These complexes consist of a catalytic subunit associating with a specific regulatory subunit to form the active kinase. The cyclins, which include cyclin A, B, C, D, E, F, G, H, I, K, L, T and their related proteins, including Dbf4, comprise the regulatory subunits of these kinase complexes. The controlled activation of the kinase complexes at various intervals of the cell cycle is regulated by the availability of the cyclins to the catalytic subunit. Unlike the catalytic subunit, which is expressed continually, the expression and stability of the regulatory subunit fluctuates depending on the stage of the cell-cycle and thereby regulates the kinase activity. Cyclin L1 is a ubiquitously expressed nuclear protein that can be detected in higher levels in thymus. In neck and head squamous cell carcinomas, cyclin L1 can be overexpressed and is therefore often considered a proto-oncogene. It interacts with POLR2A, CDC2L and SFRS2. Cyclin L1 plays a role in the mRNA splicing process regulation.

REFERENCES

1. Dickinson, L.A., et al. 2002. Cyclin L is an RS domain protein involved in pre-mRNA splicing. J. Biol. Chem. 277: 25465-25473.
2. Redon, R., et al. 2002. Amplicon mapping and transcriptional analysis pinpoint cyclin L as a candidate oncogene in head and neck cancer. Cancer Res. 62: 6211-6217.
3. de Graaf, K., et al. 2004. Characterization of cyclin L2, a novel cyclin with an arginine/serine-rich domain: phosphorylation by Dyrk1A and co-localization with splicing factors. J. Biol. Chem. 279: 4612-4624.
4. Yang, L., et al. 2004. Cyclin L2, a novel RNA polymerase II-associated cyclin, is involved in pre-mRNA splicing and induces apoptosis of human hepatocellular carcinoma cells. J. Biol. Chem. 279: 11639-11648.
5. Naaz, A., et al. 2004. Loss of cyclin-dependent kinase inhibitors produces adipocyte hyperplasia and obesity. FASEB J. 18: 1925-1927.
6. Sticht, C., et al. 2005. Amplification of cyclin L1 is associated with lymph node metastases in head and neck squamous cell carcinoma (HNSCC). Br. J. Cancer 92: 770-774.

CHROMOSOMAL LOCATION

Genetic locus: CCNL1 (human) mapping to 3q25.31; Ccnl1 (mouse) mapping to 3 E1.

SOURCE

cyclin L1 (Q-1) is a mouse monoclonal antibody raised against recombinant cyclin L1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

cyclin L1 (Q-1) is recommended for detection of cyclin L1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cyclin L1 siRNA (h): sc-44902, cyclin L1 siRNA (m): sc-44903, cyclin L1 shRNA Plasmid (h): sc-44902-SH, cyclin L1 shRNA Plasmid (m): sc-44903-SH, cyclin L1 shRNA (h) Lentiviral Particles: sc-44902-V and cyclin L1 shRNA (m) Lentiviral Particles: sc-44903-V.

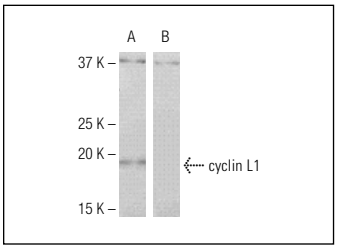
Molecular Weight of cyclin L1: 55 kDa.

Positive Controls: human cyclin L1 transfected 293T whole cell lysate.

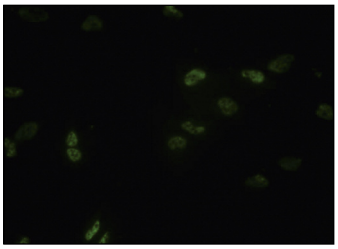
RECOMMENDED SUPPORT REAGENTS

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



cyclin L1 (Q-1): sc-81843 Western blot analysis of cyclin L1 expression in human cyclin L1 transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.



cyclin L1 (Q-1): sc-81843. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

STORAGE

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

PROTOCOLS

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