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# cyclin L2 siRNA (h): sc-44914

## 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 L2 is a nuclear protein that is ubiquitously expressed but detected in highest levels in liver, pancreas, heart and ovary. It is important in cell apoptosis by regulating the expression on critical apoptotic factors. Cyclin L2 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 pin-point 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: CCNL2 (human) mapping to 1p36.33.

## PRODUCT

cyclin L2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see cyclin L2 shRNA Plasmid (h): sc-44914-SH and cyclin L2 shRNA (h) Lentiviral Particles: sc-44914-V as alternate gene silencing products.

For independent verification of cyclin L2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-44914A, sc-44914B and sc-44914C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

cyclin L2 siRNA (h) is recommended for the inhibition of cyclin L2 expression in human cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor cyclin L2 gene expression knockdown using RT-PCR Primer: cyclin L2 (h)-PR: sc-44914-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.