

cyclin O (P-19): sc-82068

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, O, T and their related proteins, 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, thereby regulating kinase activity. Cyclin O, also known as CCNO, is a 350 amino acid protein that belongs to the cyclin family and is encoded by a gene located on human chromosome 5. Cyclin O may play an important role in oocyte meiotic cell cycle.

REFERENCES

- Gallant, P. and Nigg, E.A. 1994. Identification of a novel vertebrate cyclin: cyclin B3 shares properties with both A- and B-type cyclins. *EMBO J.* 13: 595-605.
- Mikulits, W., et al. 1997. Dynamics of cell cycle regulators: artifact-free analysis by recultivation of cells synchronized by centrifugal elutriation. *DNA Cell Biol.* 16: 849-859.
- Kolonin, M.G. and Finley, R.L. 2000. A role for cyclin J in the rapid nuclear division cycles of early *Drosophila* embryogenesis. *Dev. Biol.* 227: 661-672.
- Kong, M., et al. 2000. Cyclin F regulates the nuclear localization of cyclin B1 through a cyclin-cyclin interaction. *EMBO J.* 19: 1378-1388.
- Wikman, H. and Kettunen, E. 2006. Regulation of the G₁/S phase of the cell cycle and alterations in the RB pathway in human lung cancer. *Expert. Rev. Anticancer Ther.* 6: 515-530.
- Roig, M.B., et al. 2009. Identification of a novel cyclin required for the intrinsic apoptosis pathway in lymphoid cells. *Cell Death Differ.* 16: 230-243.

CHROMOSOMAL LOCATION

Genetic locus: CCNO (human) mapping to 5q11.2; Ccno (mouse) mapping to 13 D2.2.

SOURCE

cyclin O (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of cyclin O 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-82068 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-82068 X, 200 µg/0.1 ml.

APPLICATIONS

cyclin O (P-19) is recommended for detection of cyclin O of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with family member UDG.

cyclin O (P-19) is also recommended for detection of cyclin O in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cyclin O siRNA (h): sc-76802, cyclin O siRNA (m): sc-76803, cyclin O shRNA Plasmid (h): sc-76802-SH, cyclin O shRNA Plasmid (m): sc-76803-SH, cyclin O shRNA (h) Lentiviral Particles: sc-76802-V and cyclin O shRNA (m) Lentiviral Particles: sc-76803-V.

cyclin O (P-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of cyclin O: 36 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

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.