



# cyclin O (F-3): sc-374633

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: CCNO (human) mapping to 5q11.2.

## SOURCE

cyclin O (F-3) is a mouse monoclonal antibody raised against amino acids 1-267 mapping at the N-terminus of cyclin O of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-374633 X, 200 µg/0.1 ml.

cyclin O (F-3) is available conjugated to agarose (sc-374633 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374633 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374633 PE), fluorescein (sc-374633 FITC), Alexa Fluor® 488 (sc-374633 AF488), Alexa Fluor® 546 (sc-374633 AF546), Alexa Fluor® 594 (sc-374633 AF594) or Alexa Fluor® 647 (sc-374633 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374633 AF680) or Alexa Fluor® 790 (sc-374633 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

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

## APPLICATIONS

cyclin O (F-3) is recommended for detection of cyclin O 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

cyclin O (F-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

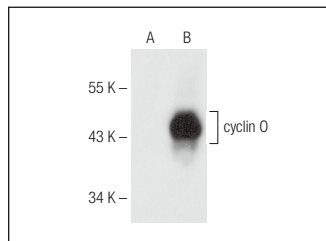
Molecular Weight of cyclin O: 38 kDa.

Positive Controls: cyclin O (h): 293T Lysate: sc-173001.

## 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 O (F-3): sc-374633. Western blot analysis of cyclin O expression in non-transfected: sc-117752 (A) and human cyclin O transfected: sc-173001 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Ma, C., et al. 2021. Bi-allelic mutations in MCIDAS and CCNO cause human infertility associated with abnormal gamete transport. *Clin. Genet.* 100: 731-742.

## RESEARCH USE

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

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