

Cdc34B (E-6): sc-376097

BACKGROUND

The eukaryotic cell division cycle consists of a number of gene-controlled sequences that involve cyclin dependent kinases (Cdks) and cell division control (Cdc) proteins. Cdc34B, also known as UBE2R2 (ubiquitin-conjugating enzyme E2 R2) or UBC3B, is a 238 amino acid member of the E2 ubiquitin-conjugating enzyme family. Similar to Cdc34, Cdc34B functions to catalytically attach ubiquitin to various proteins, such as β -TrCP (an F-box protein that mediates β -catenin degradation), via an ATP-dependent reaction that yields AMP, a diphosphate and a ubiquitin-tagged protein. Cdc34B can be phosphorylated by the protein kinase CK2 (casein kinase II), thereby allowing Cdc34B to regulate β -TrCP substrate recognition and, ultimately, enhance β -catenin degradation. Due to its ability to control β -TrCP activity, Cdc34B is thought to play a key role in cell cycle progression.

REFERENCES

- Palmer, R.E., et al. 1990. Mitotic transmission of artificial chromosomes in Cdc mutants of the yeast, *Saccharomyces cerevisiae*. *Genetics* 125: 763-774.
- Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34^{cdc2}. *Cell* 67: 197-211.
- Plon, S.E., et al. 1993. Cloning of the human homolog of the CDC34 cell cycle gene by complementation in yeast. *Proc. Natl. Acad. Sci. USA* 90: 10484-10488.
- King, R.W., et al. 1995. A 20S complex containing Cdc27 and Cdc16 catalyzes the mitosis-specific conjugation of ubiquitin to cyclin B. *Cell* 81: 279-288.
- Barinaga, M. 1995. A new twist to the cell cycle. *Science* 269: 631-632.

CHROMOSOMAL LOCATION

Genetic locus: UBE2R2 (human) mapping to 9p13.3; Ube2r2 (mouse) mapping to 4 A5.

SOURCE

Cdc34B (E-6) is a mouse monoclonal antibody raised against amino acids 188-238 mapping at the C-terminus of Cdc34B of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} 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-376097 X, 200 μ g/0.1 ml.

Cdc34B (E-6) is available conjugated to agarose (sc-376097 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376097 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376097 PE), fluorescein (sc-376097 FITC), Alexa Fluor® 488 (sc-376097 AF488), Alexa Fluor® 546 (sc-376097 AF546), Alexa Fluor® 594 (sc-376097 AF594) or Alexa Fluor® 647 (sc-376097 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376097 AF680) or Alexa Fluor® 790 (sc-376097 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Cdc34B (E-6) is recommended for detection of Cdc34B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

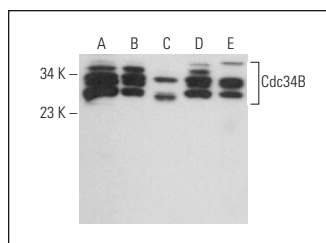
Suitable for use as control antibody for Cdc34B siRNA (h): sc-105193, Cdc34B siRNA (m): sc-142209, Cdc34B shRNA Plasmid (h): sc-105193-SH, Cdc34B shRNA Plasmid (m): sc-142209-SH, Cdc34B shRNA (h) Lentiviral Particles: sc-105193-V and Cdc34B shRNA (m) Lentiviral Particles: sc-142209-V.

Cdc34B (E-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

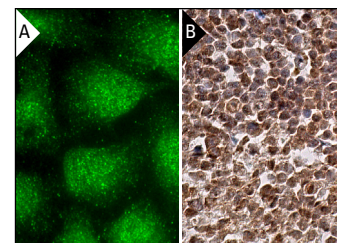
Molecular Weight of Cdc34B: 27 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, T98G cell lysate: sc-2294 or IMR-32 cell lysate: sc-2409.

DATA



Cdc34B (E-6): sc-376097. Western blot analysis of Cdc34B expression in Jurkat (A), HeLa (B), T98G (C) and IMR-32 (D) whole cell lysates and mouse brain tissue extract (E).



Cdc34B (E-6): sc-376097. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal and non-germinal centers (B).

SELECT PRODUCT CITATIONS

- St-Cyr, D., et al. 2021. Identification and optimization of molecular glue compounds that inhibit a noncovalent E2 enzyme-ubiquitin complex. *Sci. Adv.* 7: eabi5797.

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 for detailed protocols and support products.