SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc4 (A-4): sc-518093

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The F-box protein family is characterized by an approximately 40 amino acid motif known as the F-box. F-box proteins constitute one of the four subunits of ubiquitin protein ligase complex called SCFs (SKP1-cullin-F-box), which function in phosphorylation-dependent ubiquitination. One family member, Cdc4, also known as AGO, FBW7, FBXW7, FBX30, SEL10, and FLJ11071, maps to human chromosome 4q31.3. Alternative splicing of this gene generates four transcript variants. In addition to an F-box, Cdc4 contains seven tandem WD40 repeats. Cdc4 binds directly to cyclin E and targets cyclin E for ubiquitin-mediated degradation. Mutations of the Cdc4 gene are detected in ovarian and breast cancer cell lines, suggesting that the gene may be involved in the pathogenesis of human cancers.

REFERENCES

1. Strohmaier, H., et al. 2001. Human F-box protein hCdc4 targets cyclin E for proteolysis and is mutated in a breast cancer cell line. Nature 413: 316-322.
2. Moberg, K., et al. 2001. Archipelago regulates Cyclin E levels in *Drosophilia* and is mutated in human cancer cell lines. Nature 413: 268-269.
3. Koepp, D., et al. 2001. Phosphorylation-dependent ubiquitination of Cyclin E by the SCFFbw7 ubiquitin ligase. Science 294: 173-177.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606278. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Tsunematsu, R., et al. 2004. Mouse Fbw7/Sel-10/Cdc4 is required for notch degradation during vascular development. J. Biol. Chem. 279: 9417-9423. PMID 14672936.
6. LocusLink Report (LocusID: 55294). http://www.ncbi.nlm.nih.gov/LocusLink/.

CHROMOSOMAL LOCATION

Genetic locus: FBXW7 (human) mapping to 4q31.3.

SOURCE

Cdc4 (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 46-68 near the N-terminus of Cdc4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

Cdc4 (A-4) is recommended for detection of Cdc4 of human origin by Western Blotting (starting dilution 1:100, 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 Cdc4 siRNA (m): sc-37548, Cdc4 shRNA Plasmid (m): sc-37548-SH and Cdc4 shRNA (m) Lentiviral Particles: sc-37548-V.

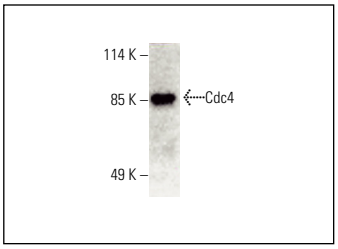
Molecular Weight of Cdc4α: 110 kDa.

Molecular Weight of Cdc4β: 69 kDa.

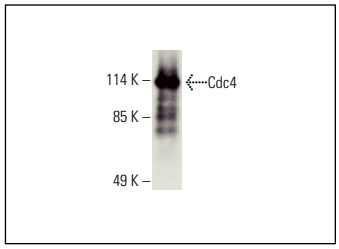
RECOMMENDED SUPPORT REAGENTS

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



Cdc4 (A-4): sc-518093. Western blot analysis of Cdc4 expression in 293T whole cell lysate. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.



Cdc4 (A-4): sc-518093. Western blot analysis of human recombinant Cdc4. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

RESEARCH USE

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