

Cdc4 (D-16): sc-21184

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. Moberg, K., et al. 2001. Archipelago regulates cyclin E levels in *Drosophila* and is mutated in human cancer cell lines. *Nature* 413: 268-269.
2. 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.
3. Koepf, 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.
6. LocusLink Report (LocusID: 55294). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

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

SOURCE

Cdc4 (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Cdc4 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-21184 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Cdc4 (D-16) is recommended for detection of Cdc4 α of 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).

Suitable for use as control antibody for Cdc4 siRNA (h): sc-37547, Cdc4 shRNA Plasmid (h): sc-37547-SH and Cdc4 shRNA (h) Lentiviral Particles: sc-37547-V.

Molecular Weight of Cdc4 α : 110 kDa.

Molecular Weight of Cdc4 β : 69 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.

SELECT PRODUCT CITATIONS

1. Sgambato, A., et al. 2007. Low frequency of hCdc4 mutations in human primary ovarian cancer. *Gynecol. Oncol.* 105: 553-555.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.