

# Cdc123 (A-2): sc-390989

## 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. Cdc123 (cell division cycle protein 123), also known as D123, is a 336 amino acid cytoplasmic protein that is involved in cell cycle control. Widely expressed with high expression in thymus, spleen, ovary, testis, small intestine and leukocytes, Cdc123 functions to destabilize Chfr (checkpoint with forkhead and ring finger domain) proteins which, when accumulated, block the G to S phase transition. Cdc123 prevents the Chfr proteins from collecting in the cell, thereby allowing the cell to enter the S phase. Due to its role in cell cycle control, Cdc123 is thought to be a basal marker for luminal breast cancers.

## REFERENCES

- Okuda, A. and Kimura, G. 1996. An amino acid change in novel protein D123 is responsible for temperature-sensitive G<sub>1</sub>-phase arrest in a mutant of rat fibroblast line 3Y1. *Exp. Cell Res.* 223: 242-249.
- Onisto, M., et al. 1998. Expression study on D123 gene product: evidence for high positivity in testis. *Exp. Cell Res.* 242: 451-459.
- Okuda, A., et al. 1999. Extensive degradation of mutant-type D123 protein is responsible for temperature-sensitive proliferation inhibition in 3Y1tsD123 cells. *Cell Struct. Funct.* 24: 443-449.
- Liu, L.X., et al. 2000. Mutation of a conserved residue (D123) required for oligomerization of human immunodeficiency virus type 1 Nef protein abolishes interaction with human thioesterase and results in impairment of Nef biological functions. *J. Virol.* 74: 5310-5319.

## CHROMOSOMAL LOCATION

Genetic locus: CDC123 (human) mapping to 10p13; Cdc123 (mouse) mapping to 2 A1.

## SOURCE

Cdc123 (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 289-318 near the C-terminus of Cdc123 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.

Cdc123 (A-2) is available conjugated to agarose (sc-390989 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390989 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390989 PE), fluorescein (sc-390989 FITC), Alexa Fluor® 488 (sc-390989 AF488), Alexa Fluor® 546 (sc-390989 AF546), Alexa Fluor® 594 (sc-390989 AF594) or Alexa Fluor® 647 (sc-390989 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390989 AF680) or Alexa Fluor® 790 (sc-390989 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390989 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Cdc123 (A-2) is recommended for detection of Cdc123 of mouse, rat and 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).

Cdc123 (A-2) is also recommended for detection of Cdc123 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Cdc123 siRNA (h): sc-90774, Cdc123 siRNA (m): sc-142205, Cdc123 shRNA Plasmid (h): sc-90774-SH, Cdc123 shRNA Plasmid (m): sc-142205-SH, Cdc123 shRNA (h) Lentiviral Particles: sc-90774-V and Cdc123 shRNA (m) Lentiviral Particles: sc-142205-V.

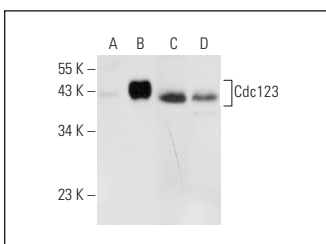
Molecular Weight of Cdc123: 39 kDa.

Positive Controls: Cdc123 (m3): 293T Lysate: sc-126610, AML-193 whole cell lysate: sc-364182 or U-87 MG cell lysate: sc-2411.

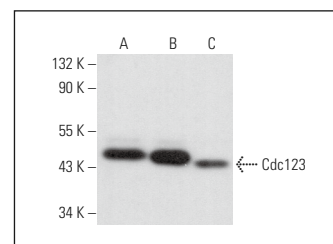
## RECOMMENDED SUPPORT REAGENTS

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



Cdc123 (A-2): sc-390989. Western blot analysis of Cdc123 expression in non-transfected 293T: sc-117752 (A), mouse Cdc123 transfected 293T: sc-126610 (B), AML-193 (C) and U-87 MG (D) whole cell lysates.



Cdc123 (A-2): sc-390989. Western blot analysis of Cdc123 expression in Caco-2 (A), Jurkat (B) and NIH/3T3 (C) whole cell lysates.

## 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.

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