



Cdc123 (m3): 293T Lysate: sc-126610

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 G₁-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.
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- 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.
- Okuda, A., et al. 2001. Reversion of temperature-sensitive mutation by inhibition of proteasome-mediated degradation of mutated D123 protein. *Cell Struct. Funct.* 26: 205-214.
- Bieganowski, P., et al. 2004. Cdc123 and checkpoint forkhead associated with RING proteins control the cell cycle by controlling eIF2 γ abundance. *J. Biol. Chem.* 279: 44656-44666.
- Adelaide, J., et al. 2007. Integrated profiling of basal and luminal breast cancers. *Cancer Res.* 67: 11565-11575.
- Zeggini, E., et al. 2008. Meta-analysis of genome-wide association data and large-scale replication identifies additional susceptibility loci for type 2 diabetes. *Nat. Genet.* 40: 638-645.

CHROMOSOMAL LOCATION

Genetic locus: Cdc123 (mouse) mapping to 2 A1.

PRODUCT

Cdc123 (m3): 293T Lysate represents a lysate of mouse Cdc123 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Cdc123 (m3): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Cdc123 antibodies. Recommended use: 10-20 μ l per lane.

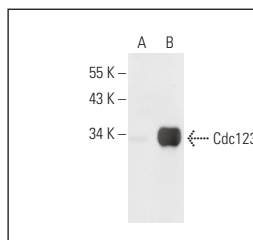
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Cdc123 (A-2): sc-390989 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Cdc123 expression in Cdc123 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

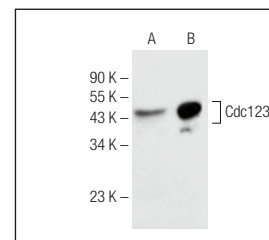
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



Cdc123 (A-2): sc-390989. Western blot analysis of Cdc123 expression in non-transfected: sc-117752 (A) and mouse Cdc123 transfected: sc-126610 (B) 293T whole cell lysates.



Cdc123 (G-10): sc-365596. Western blot analysis of Cdc123 expression in non-transfected: sc-117752 (A) and mouse Cdc123 transfected: sc-126610 (B) 293T whole cell lysates.

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.