

Repo-Man (H-300): sc-134950

BACKGROUND

The eukaryotic cell division cycle consists of a number of gene-controlled sequences that involve cyclin dependent kinases (Cdks) and cell division cycle (Cdc) proteins. Repo-Man, also known as CDCA2 (cell division cycle associated 2), is a 1,024 amino acid protein that localizes to different areas within the nucleus in a phosphorylation-dependent manner. Expressed ubiquitously, Repo-Man functions to regulate mitotic chromosome structure and is specifically required to maintain compact chromosomal architecture in the absence of condensins during anaphase. Due to its ability to maintain proper chromosomal structure and function, Repo-Man plays a key role in cell cycle progression and, if upregulated, may be involved in tumor formation and metastasis. Two isoforms of Repo-Man exist due to alternative splicing events.

REFERENCES

- Freeman, L., Aragon-Alcaide, L. and Strunnikov, A. 2000. The condensin complex governs chromosome condensation and mitotic transmission of rDNA. *J. Cell Biol.* 149: 811-824.
- Gassmann, R., Vagnarelli, P., Hudson, D. and Earnshaw, W.C. 2004. Mitotic chromosome formation and the condensin paradox. *Exp. Cell Res.* 296: 35-42.
- Belmont, A.S. 2006. Mitotic chromosome structure and condensation. *Curr. Opin. Cell Biol.* 18: 632-638.
- Trinkle-Mulcahy, L., Andersen, J., Lam, Y.W., Moorhead, G., Mann, M. and Lamond, A.I. 2006. Repo-Man recruits PP1 γ to chromatin and is essential for cell viability. *J. Cell Biol.* 172: 679-692.
- Vagnarelli, P., Hudson, D.F., Ribeiro, S.A., Trinkle-Mulcahy, L., Spence, J.M., Lai, F., Farr, C.J., Lamond, A.I. and Earnshaw, W.C. 2006. Condensin and Repo-Man-PP1 cooperate in the regulation of chromosome architecture during mitosis. *Nat. Cell Biol.* 8: 1133-1142.
- Nousiainen, M., Sillj , H.H., Sauer, G., Nigg, E.A. and K rner, R. 2006. Phosphoproteome analysis of the human mitotic spindle. *Proc. Natl. Acad. Sci. USA* 103: 5391-5396.
- Ryu, B., Kim, D.S., Deluca, A.M. and Alani, R.M. 2007. Comprehensive expression profiling of tumor cell lines identifies molecular signatures of melanoma progression. *PLoS ONE* 2: E594.

CHROMOSOMAL LOCATION

Genetic locus: CDCA2 (human) mapping to 8p21.2.

SOURCE

Repo-Man (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Repo-Man of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Repo-Man (H-300) is recommended for detection of Repo-Man of human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Repo-Man siRNA (h): sc-76388, Repo-Man shRNA Plasmid (h): sc-76388-SH and Repo-Man shRNA (h) Lentiviral Particles: sc-76388-V.

Molecular Weight of Repo-Man: 115 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

Store at 4 $^{\circ}$ 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 or our catalog for detailed protocols and support products.