SANTA CRUZ BIOTECHNOLOGY, INC.

CAF-1 p150 (SS 1 1-13): sc-56643

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chromatin assembly factor-1 (CAF-1) is a multisubunit protein complex that comprises three polypeptide subunits known as p150, p60 and p48. CAF-1 is a nucleosome assembly factor that deposits newly synthesized and acetylated Histones H3/H4 into nascent chromatin during DNA replication. The p150 subunit of CAF-1 also supports the maintenance of heterochromatin, which requires the synthesis of both new histones and heterochromatin proteins and their orderly assembly during DNA replication. Heterochromatin is characterized as densely coiled chromatin that generally replicates late during S phase, has a low gene density and contains large blocks of repetitive DNA that is relatively inaccessible to DNA-modifying reagents. In late S phase, p150 directly associates with heterochromatin associated proteins 1 (HP1α, HP1β and HP1γ). As cells prepare for mitosis, CAF-1 p150 and some HP1 progressively dissociate from heterochromatin, coinciding with the phosphorylation of Histone H3. The HP1 proteins reassociate with chromatin at the end of mitosis, as Histone H3 is dephosphorylated.

REFERENCES

1. Smith, S., et al. 1989. Purification and characterization of CAF-1, a human cell factor required for chromatin assembly during DNA replication *in vitro*. Cell 58: 15-25.
2. Kaufman, P.D., et al. 1995. The p150 and p60 subunits of CAF-1: a molecular link between newly synthesized histones and DNA replication. Cell 81: 1105-1114.
3. Verreault, A., et al. 1996. Nucleosome assembly by a complex of CAF-1 and acetylated histones H3/H4. Cell 87: 95-104.
4. Minc, E., et al. 1999. Localization and phosphorylation of HP1 proteins during the cell cycle in mammalian cells. Chromosoma 108: 220-234.
5. Taddei, A., et al. 1999. Duplication and maintenance of heterochromatin domains. J. Cell Biol. 147: 1153-1166.
6. Murzina, N., et al. 1999. Heterochromatin dynamics in mouse cells: interaction between CAF-1 and HP1 proteins. Mol. Cell 4: 529-540.
7. Koike, N., et al. 2000. Identification of heterochromatin protein 1 (HP1) as a phosphorylation target by Pim-1 kinase and the effect of phosphorylation on the transcriptional repression function of HP1. FEBS Lett. 467: 17-21.

CHROMOSOMAL LOCATION

Genetic locus: CHAF1A (human) mapping to 19p13.3.

SOURCE

CAF-1 p150 (SS 1 1-13) is a mouse monoclonal antibody raised against full length CAF-1 p150 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

CAF-1 p150 (SS 1 1-13) is recommended for detection of CAF1 p150 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CAF-1 p150 siRNA (h): sc-29876, CAF-1 p150 shRNA Plasmid (h): sc-29876-SH and CAF-1 p150 shRNA (h) Lentiviral Particles: sc-29876-V.

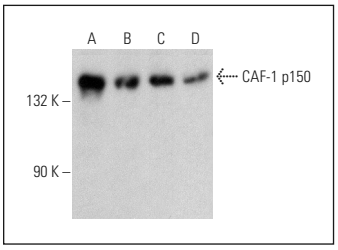
Molecular Weight of CAF-1 p150: 150 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, SK-N-SH cell lysate: sc-2410 or HeLa nuclear extract: sc-2120.

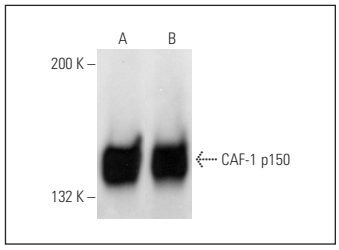
RECOMMENDED SUPPORT REAGENTS

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, 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).

DATA



CAF-1 p150 (SS 1 1-13): sc-56643. Western blot analysis of CAF-1 p150 expression in HeLa nuclear extract (**A**) and NTERA-2 cl.D1 (**B**), CCRF-CEM (**C**) and SK-N-SH (**D**) whole cell lysates.



CAF-1 p150 (SS 1 1-13): sc-56643. Western blot analysis of CAF-1 p150 expression in HeLa (**A**) and K-562 (**B**) nuclear extracts.

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.