SANTA CRUZ BIOTECHNOLOGY, INC.

CAF-1 p150 (C-21): sc-10205

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 di-rectly associates with heterochromatin associated proteins 1, HP1, (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-I, 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 chromatin assembly factor I: 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. Murzina, N., et al. 1999. Heterochromatin dynamics in mouse cells: interaction between chromatin assembly factor 1 and HP1 proteins. Mol. Cell 4: 529-540.
6. Taddei, A., et al. 1999. Duplication and maintenance of heterochromatin domains. J. Cell Biol. 147: 1153-1166.

CHROMOSOMAL LOCATION

Genetic locus: CHAF1A (human) mapping to 19p13.3; Chaf1a (mouse) mapping to 17 D.

SOURCE

CAF-1 p150 (C-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CAF-1 p150 of human origin.

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.

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-10205 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CAF-1 p150 (C-21) is recommended for detection of CAF-1 p150 of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

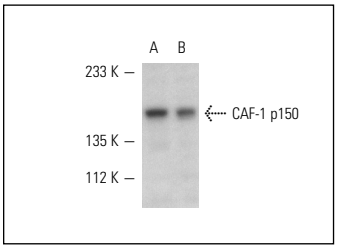
CAF-1 p150 (C-21) is also recommended for detection of CAF-1 p150 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for CAF-1 p150 siRNA (h): sc-29876, CAF-1 p150 siRNA (m): sc-29877, CAF-1 p150 shRNA Plasmid (h): sc-29876-SH, CAF-1 p150 shRNA Plasmid (m): sc-29877-SH, CAF-1 p150 shRNA (h) Lentiviral Particles: sc-29876-V and CAF-1 p150 shRNA (m) Lentiviral Particles: sc-29877-V.

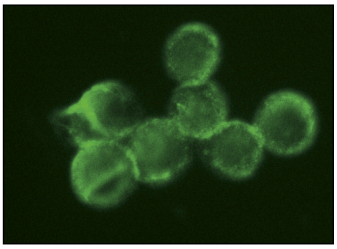
Molecular Weight of CAF-1 p150: 150 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat nuclear extract: sc-2132 or HeLa nuclear extract: sc-2120.

DATA



CAF-1 p150 (C-21): sc-10205. Western blot analysis of CAF-1 p150 expression in K-562 (**A**) and Jurkat (**B**) nuclear extracts.



CAF-1 p150 (C-21): sc-10205. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Stanislav, N., et al. 2005. Proliferating cell nuclear antigen (PCNA) may function as a double homotrimer complex in the mammalian cell. J. Biol. Chem. 280: 13888-13894.