SANTA CRUZ BIOTECHNOLOGY, INC.

HP1β (H-50): sc-20699

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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. and Stillman, B. 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. Taddei, A., et al. 1999. Duplication and maintenance of heterochromatin domains. J. Cell Biol. 147: 1153-1166.

CHROMOSOMAL LOCATION

Genetic locus: CBX1 (human) mapping to 17q21.32; Cbx1 (mouse) mapping to 11 D.

SOURCE

HP1β (H-50) is a rabbit polyclonal antibody raised against amino acids 61-110 of HP1β of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-20699 X, 200 µg/0.1 ml.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

HP1β (H-50) is recommended for detection of HP1β 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HP1β (H-50) is also recommended for detection of HP1β in additional species, including equine, canine, bovine and porcine.

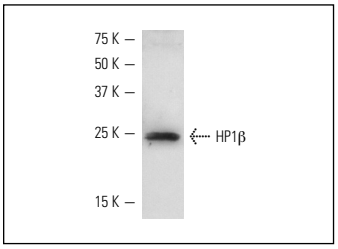
Suitable for use as control antibody for HP1β siRNA (h): sc-35587, HP1β siRNA (m): sc-35588, HP1β shRNA Plasmid (h): sc-35587-SH, HP1β shRNA Plasmid (m): sc-35588-SH, HP1β shRNA (h) Lentiviral Particles: sc-35587-V and HP1β shRNA (m) Lentiviral Particles: sc-35588-V.

HP1β (H-50) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HP1β: 25 kDa.

Positive Controls: A-431 nuclear extract: sc-2122, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

DATA



HP1β (H-30): sc-20699. Western blot analysis of HP1β expression in NIH:OVCAR-3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Jiao, W., et al. 2005. E2F-dependent repression of topoisomerase II regulates heterochromatin formation and apoptosis in cells with melanoma-prone mutation. Cancer Res. 65: 4067-4077.

RESEARCH USE

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