

HP1 (FL-191): sc-28735

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 (HP1), HP1 α , HP1 β and HP1 γ . 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 chromatin assembly factor 1: a molecular link between newly synthesized histones and DNA replication. Cell 81: 1105-1114.

SOURCE

HP1 (FL-191) is a rabbit polyclonal antibody raised against amino acids 1-191 representing full length HP1 α 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.

RESEARCH USE

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

APPLICATIONS

HP1 (FL-191) is recommended for detection of HP1 α , HP1 β and HP1 γ of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HP1 (FL-191) is also recommended for detection of HP1 α , HP1 β , and HP1 γ in additional species, including equine, canine, bovine and porcine.

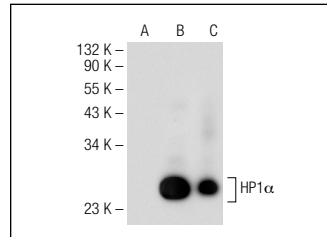
Molecular Weight of HP1: 25 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HP1 α (h): 293 Lysate: sc-110608 or HeLa whole cell lysate: sc-2200.

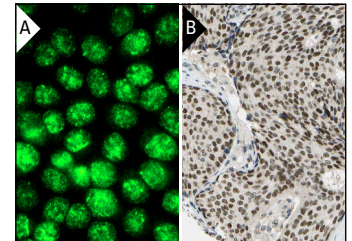
RECOMMENDED SECONDARY REAGENTS

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



HP1 (FL-191): sc-28735. Western blot analysis of HP1 α expression in non-transfected 293: sc-110760 (A), human HP1 α transfected 293: sc-110608 (B) and K-562 (C) whole cell lysates.



HP1 (FL-191): sc-28735. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast cancer tissue showing nuclear staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Sun, F., et al. 2007. Nuclear reprogramming: the zygotic transcription program is established through an "erase-and-rebuild" strategy. Cell Res. 17: 117-134.
2. Akimzhanov, A., et al. 2008. Epigenetic changes and suppression of the nuclear factor of activated T cell 1 (NFATC1) promoter in human lymphomas with defects in immunoreceptor signaling. Am. J. Pathol. 172: 215-224.
3. Dittmann, K., et al. 2011. Nuclear epidermal growth factor receptor modulates cellular radio-sensitivity by regulation of chromatin access. Radiother. Oncol. 99: 317-322.
4. Ye, S., et al. 2013. Role of DNA methylation in long-term low-dose gamma-rays induced adaptive response in human B lymphoblast cells. Int. J. Radiat. Biol. 89: 898-906.

STORAGE

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


 MONOS
Satisfaction
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Try **HP1 (E-6): sc-515341** or **HP1 γ (F-1): sc-398562**, our highly recommended monoclonal alternatives to HP1 (FL-191).