SANTA CRUZ BIOTECHNOLOGY, INC.

PHC1 (P-13): sc-138523

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Polycomb group (PcG) proteins assemble into multimeric protein complexes, which are involved in maintaining the transcriptional repressive state of genes throughout development. PHC1 (polyhomeotic homolog 1), also known as EDR1, HPH1 or RAE28, is a 1,004 amino acid nuclear protein that is a component of the PcG multiprotein PRC1 complex. Specifically, the PcG PRC1 complex modifies histones, remodels chromatin and mediates monoubiquination of Histone H2A. Other constituent proteins involved in the PcG PRC1 complex are Mel-18, Bmi-1, M33, MPc2, MPc3, RING1, Ring1b, as well as several others. Existing as a homodimer, PHC1 contains one FCS-type zinc finger and a SAM (sterile α motif) domain. PHC1 is encoded by a gene located on human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome.

REFERENCES

1. Tonkin, E., et al. 2002. Identification and characterisation of novel mammalian homologues of *Drosophila* polyhomeoticpermits new insights into relationships between members of the polyhomeotic family. Hum. Genet. 111: 435-442.
2. Levine, S.S., et al. 2002. The core of the polycomb repressive complex is compositionally and functionally conserved in flies and humans. Mol. Cell. Biol. 22: 6070-6078.
3. Otte, A.P., et al. 2003. Gene repression by Polycomb group protein complexes: a distinct complex for every occasion? Curr. Opin. Genet. Dev. 13: 448-454.
4. Isono, K., et al. 2005. Mammalian polyhomeotic homologues PHC2 and PHC1 act in synergy to mediate polycomb repression of Hox genes. Mol. Cell. Biol. 25: 6694-6706.

CHROMOSOMAL LOCATION

Genetic locus: PHC1 (human) mapping to 12p13.31; Phc1 (mouse) mapping to 6 F1.

SOURCE

PHC1 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PHC1 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.

Blocking peptide available for competition studies, sc-138523 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

PHC1 (P-13) is recommended for detection of PHC1 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), 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); non cross-reactive with PHC2 or PHC3.

PHC1 (P-13) is also recommended for detection of PHC1 in additional species, including equine.

Suitable for use as control antibody for PHC1 siRNA (h): sc-95881, PHC1 siRNA (m): sc-152203, PHC1 shRNA Plasmid (h): sc-95881-SH, PHC1 shRNA Plasmid (m): sc-152203-SH, PHC1 shRNA (h) Lentiviral Particles: sc-95881-V and PHC1 shRNA (m) Lentiviral Particles: sc-152203-V.

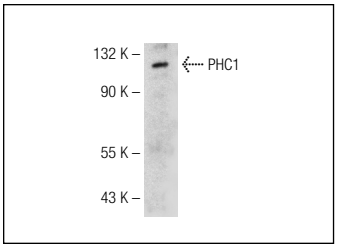
Molecular Weight of PHC1: 106 kDa.

Positive Controls: F9 cell lysate: sc-2245.

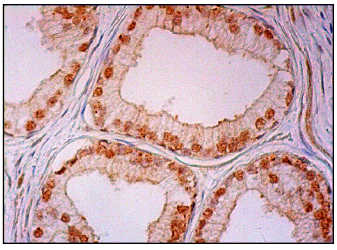
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PHC1 (P-13): sc-138523. Western blot analysis of PHC1 expression in F9 whole cell lysate.



PHC1 (P-13): sc-138523. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Sustacková, G., et al. 2012. Acetylation-dependent nuclear arrangement and recruitment of BMI1 protein to UV-damaged chromatin. J. Cell. Physiol. 227: 1838-1850.