SANTA CRUZ BIOTECHNOLOGY, INC.

PHC3 (K-17): sc-99586

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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. PHC3 (polyhomeotic-like protein 3), also known as early development regulatory protein 3, is a 983 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. Loss of heterozygosity of the PHC3 gene was observed in human osteosarcoma tumors, suggesting that loss of PHC3 protein may contribute to tumorigenesis. There are six isoforms of PHC3 that are expressed as a result of alternative splicing events.

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: PHC3 (human) mapping to 3q26.2; Phc3 (mouse) mapping to 3 A3.

SOURCE

PHC3 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PHC3 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-99586 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-99586 X, 100 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

PHC3 (K-17) is recommended for detection of PHC3 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); non cross-reactive with other PHC isoforms.

PHC3 (K-17) is also recommended for detection of PHC3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PHC3 siRNA (h): sc-77997, PHC3 siRNA (m): sc-152205, PHC3 shRNA Plasmid (h): sc-77997-SH, PHC3 shRNA Plasmid (m): sc-152205-SH, PHC3 shRNA (h) Lentiviral Particles: sc-77997-V and PHC3 shRNA (m) Lentiviral Particles: sc-152205-V.

PHC3 (K-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

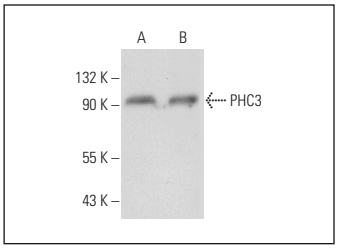
Molecular Weight of PHC3: 106 kDa.

Positive Controls: RAW 264.7 nuclear extract: sc-24961 or mouse lymph node extract: sc-364243.

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.

DATA



PHC3 (K-17): sc-99586. Western blot analysis of PHC3 expression in RAW 264.7 nuclear extract (**A**) and mouse lymph node tissue extract (**B**).

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.