

p-Histone H3 (C-2): sc-374669

BACKGROUND

In eukaryotes, DNA is wrapped around histone octamers to form the basic unit of chromatin structure. The octamer is composed of Histones H2A, H2B, H3 and H4, and it associates with approximately 200 base pairs of DNA to form the nucleosome. The association of DNA with histones results in dense packing of chromatin, which restricts proteins involved in gene transcription from binding to DNA. Histone H3, the core protein of the nucleosome, becomes phosphorylated at the end of prophase. The two major sites of phosphorylation are the mitosis-specific sites Ser 10, and Ser 28, both of which are extensively phosphorylated in DNA-bound forms of Histone H3 and in nucleosomal Histone H3. The nucleosome structure of Histone H3 promotes N-terminal phosphorylation *in vitro*.

SOURCE

p-Histone H3 (C-2) is a mouse monoclonal antibody epitope corresponding to a short amino acid sequence containing Ser 28 phosphorylated Histone H3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain 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-374669 X, 200 µg/0.1 ml.

p-Histone H3 (C-2) is available conjugated to agarose (sc-374669 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374669 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374669 PE), fluorescein (sc-374669 FITC), Alexa Fluor® 488 (sc-374669 AF488), Alexa Fluor® 546 (sc-374669 AF546), Alexa Fluor® 594 (sc-374669 AF594) or Alexa Fluor® 647 (sc-374669 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374669 AF680) or Alexa Fluor® 790 (sc-374669 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374669 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-Histone H3 (C-2) is recommended for detection of Ser 28 phosphorylated Histone H3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

p-Histone H3 (C-2) is also recommended for detection of correspondingly phosphorylated Histone H3 in additional species, including equine, canine, bovine, porcine and avian.

p-Histone H3 (C-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

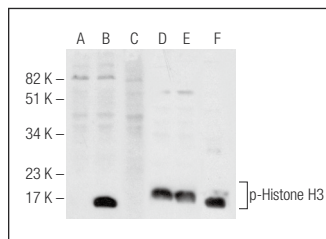
Molecular Weight of p-Histone H3: 15 kDa.

Positive Controls: A-431 + Calyculin A cell lysate: sc-2260 or HeLa + Calyculin A cell lysate: sc-2271.

STORAGE

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

DATA



Western blot analysis of Histone H3 phosphorylation in untreated (A,D), calyculin A treated (B,E) and calyculin A and lambda protein phosphatase (sc-200312A) treated (C,F) Jurkat whole cell lysates. Antibodies tested include p-Histone H3 (C-2): sc-374669 (A,B,C) and Histone H3 (FL-136): sc-10809 (D,E,F).

SELECT PRODUCT CITATIONS

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- Xu, S., et al. 2016. miR-129 predicts prognosis and inhibits cell growth in human prostate carcinoma. *Mol. Med. Rep.* 14: 5025-5032.
- Sawamiphak, S., et al. 2017. Transient cardiomyocyte fusion regulates cardiac development in zebrafish. *Nat. Commun.* 8: 1525.
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- Gurkaslar, H.K., et al. 2020. CCDC57 cooperates with microtubules and microcephaly protein CEP63 and regulates centriole duplication and mitotic progression. *Cell Rep.* 31: 107630.
- Zhang, L., et al. 2020. Neddylation is critical to cortical development by regulating Wnt/β-catenin signaling. *Proc. Natl. Acad. Sci. USA* 117: 26448-26459.
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RESEARCH USE

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

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