

Trimethyl Histone H3 (6F12-H4): sc-130356

BACKGROUND

Eukaryotic histones are basic and water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA in a left-handed super-helical turn sequentially to form chromosomal fibers. Two molecules of each of the four core Histones (H2A, H2B, H3 and H4) form the octamer, which is comprised of two H2A-H2B dimers and two H3-H4 dimers, forming two nearly symmetrical halves by tertiary structure. Histones are subject to posttranslational modification by enzymes primarily on their N-terminal tails, but also in their globular domains. Human Histone H3 is subject to trimethylation at Lys 9, a modification that may be necessary for select DNA transactions or chromatin state transitions.

REFERENCES

- Schurter, B.T., et al. 2001. Methylation of Histone H3 by coactivator-associated arginine methyltransferase 1. *Biochemistry* 40: 5747-5756.
- Chicas, A., et al. 2005. Small interfering RNAs that trigger posttranscriptional gene silencing are not required for the Histone H3 Lys-9 methylation necessary for transgenic tandem repeat stabilization in *Neurospora crassa*. *Mol. Cell. Biol.* 25: 3793-3801.
- Fischle, W., et al. 2005. Regulation of HP1-chromatin binding by Histone H3 methylation and phosphorylation. *Nature* 438: 1116-1122.
- Bode, A.M. and Dong, Z. 2005. Inducible covalent posttranslational modification of Histone H3. *Sci. STKE* 2005: re4.
- Dialynas, G.K., et al. 2006. Methylation-independent binding to Histone H3 and cell cycle-dependent incorporation of HP1 β into heterochromatin. *J. Biol. Chem.* 281: 14350-14360.

SOURCE

Trimethyl Histone H3 (6F12-H4) is a mouse monoclonal antibody raised against a short amino acid sequence containing Lys 9 trimethylated Histone H3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ 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-130356 X, 200 μ g/0.1 ml.

Trimethyl Histone H3 (6F12-H4) is available conjugated to agarose (sc-130356 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130356 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130356 PE), fluorescein (sc-130356 FITC), Alexa Fluor[®] 488 (sc-130356 AF488), Alexa Fluor[®] 546 (sc-130356 AF546), Alexa Fluor[®] 594 (sc-130356 AF594) or Alexa Fluor[®] 647 (sc-130356 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-130356 AF680) or Alexa Fluor[®] 790 (sc-130356 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Trimethyl Histone H3 (6F12-H4) is recommended for detection of Lys 9 trimethylated Histone H3 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Trimethyl Histone H3 (6F12-H4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

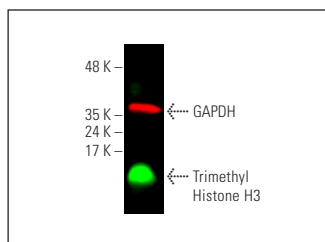
Molecular Weight of acetylated Trimethyl Histone H3: 11 kDa.

Molecular Weight of non-acetylated Trimethyl Histone H3: 11 kDa.

Molecular Weight of hyper-acetylated Trimethyl Histone H3: 35 kDa.

Positive Controls: mouse testis extract: sc-2405.

DATA



Simultaneous direct near-infrared western blot analysis of Trimethyl Histone H3 expression, detected with Trimethyl Histone H3 (6F12-H4) Alexa Fluor[®] 680: sc-130356 AF680 and GAPDH expression, detected with GAPDH (G-9) Alexa Fluor[®] 790: sc-365062 AF790 in mouse testis tissue extract. Blocked with UltraCruz[®] Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

- Chriett, S., et al. 2016. Dysregulation of sirtuins and key metabolic genes in skeletal muscle of pigs with spontaneous intrauterine growth restriction is associated with alterations of circulating IGF-1. *Gen. Comp. Endocrinol.* 232: 76-85.
- de Brito Alves, J.L., et al. 2017. Transcriptional response of skeletal muscle to a low protein perinatal diet in rat offspring at different ages: the role of key enzymes of glucose-fatty acid oxidation. *J. Nutr. Biochem.* 41: 117-123.
- Bosnakovski, D., et al. 2019. A novel P300 inhibitor reverses DUX4-mediated global Histone H3 hyperacetylation, target gene expression, and cell death. *Sci. Adv.* 5: eaaw7781.
- Patel, D., et al. 2019. CGGBP1 regulates CTCF occupancy at repeats. *Epigenetics Chromatin* 12: 57.
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RESEARCH USE

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