

# 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.

## 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 µg IgG<sub>1</sub> 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 µg/0.1 ml.

Trimethyl Histone H3 (6F12-H4) is available conjugated to agarose (sc-130356 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130356 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## 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

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 µg per 100-500 µg 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.

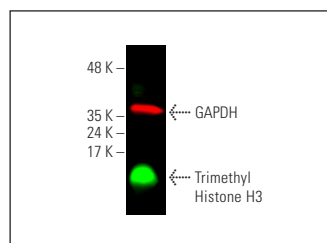
Molecular Weight of hyper-acetylated Trimethyl Histone H3: 35 kDa.

Positive Controls: mouse testis extract: sc-2405.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## 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.
- Liu, X., et al. 2022. Olanzapine-induced decreases of FGF21 in brown adipose tissue via histone modulations drive UCP1-dependent thermogenetic impairment. *Prog. Neuropsychopharmacol. Biol. Psychiatry* 122: 110692.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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