PRODUCT INFORMATION

Histone H3K27Me3 (21-44)-K-biotin (trifluoroacetate salt)

Item No. 28138

Formal Name: L-alanyl-L-threonyl-L-lysyl-L-alanyl-L-alanyl-L-arginyl-L-6-(trimethylammonio)-L-norleucyl-L-seryl-L-alanyl-L-prolyl-L-alanyl-L-threonylglycylglycyl-L-valyl-L-lysyl-L-lysyl-L-prolyl-L-histidyl-L-arginyl-L-tyrosyl-L-arginyl-L-prolylglycyl-L-lysine-biotin, trifluoroacetate salt

Synonyms: ATKAAR-K(Me3)-SAPATGGVKKPHRYRPG-K(Biotin), H3(21-44)K27me3 Substrate, Histone H3 (21-44) (Lys^{27}me3), [Lys(Me3)27]-Histone H3 (21-44)-K(Biotin)

MF: $C_{128}H_{217}N_{43}O_{32}S \bullet XCF_3COOH$

FW: 2,902.4

Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

H – Ala – Thr – Lys – Ala – Ala – Arg – Lys(Me3) – Ser – Ala – Pro – Ala – Thr – Gly – Gly – Val – Lys – Lys – Pro – His – Arg – Tyr – Arg – Pro – Gly – Lys(Biotin) – OH • XCF_3COOH

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Histone H3K27Me3 (21-44)-K-biotin (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the histone H3K27Me3 (21-44)-K-biotin (trifluoroacetate salt) in water. The solubility of histone H3K27Me3 (21-44)-K-biotin (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Histone H3K27Me3 (21-44)-K-biotin is a peptide fragment of histone H3 that corresponds to amino acid residues 22-45 of the human histone H3.1 and H3.2 sequences. It is trimethylated at lysine 27 and biotinylated *via* a C-terminal lysine linker. Trimethylation of histone H3 at lysine 27 is associated with gene silencing.[1] It is involved in tumor progression through its regulation by enhancer of zeste homolog 2 (EZH2) and transcriptional repression of tumor suppressor genes.[2,3] Levels of H3K27Me3 are reduced in 293 T-REx cells containing EED^{R236T} and SUZ12^{G610V} mutations and in lymphoblastoid cells isolated from patients with Weaver syndrome, a rare overgrowth disorder characterized by EZH2, EED, or SUZ12 mutations, cancer susceptibility, and various distinctive physical features.[4]

References

1. Becker, J.S., Nicetto, D., and Zaret, K.S. H3K9me3-dependent heterochromatin: Barrier to cell fate changes. *Trends Genet.* **32(1)**, 29-41 (2016).
2. Wu, Z., Lee, S.T., Qiao, Y., *et al.* Polycomb protein EZH2 regulates cancer cell fate decision in response to DNA damage. *Cell Death Differ.* **18(11)**, 1771-1779 (2011).
3. Gan, L., Yang, Y., Li, Q., *et al.* Epigenetic regulation of cancer progression by EZH2: From biological insights to therapeutic potential. *Biomark. Res.* **6**, 10 (2018).
4. Imagawa, E., Higashimoto, K., Sakai, Y., *et al.* Mutations in genes encoding polycomb repressive complex 2 subunits cause Weaver syndrome. *Hum. Mutat.* **38(6),** 637-648 (2017).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM