

# PRODUCT INFORMATION

## Histone H3K9Me2 (3-17) (human, mouse, rat, porcine, bovine) (trifluoroacetate salt)

Item No. 27526

**Formal Name:** N<sup>2</sup>-L-threonyl-L-lysyl-L-glutaminy-L-threonyl-L-alanyl-L-arginyl-N<sup>6</sup>,N<sup>6</sup>-dimethyl-L-lysyl-L-seryl-L-threonylglycylglycyl-L-lysyl-L-alanyl-L-prolyl-L-arginine, trifluoroacetate salt

**Synonyms:** Histone H3 (3-17) (Lys<sup>9</sup>me<sub>2</sub>), H-Thr-Lys-Gln-Thr-Ala-Arg-Lys(Me<sub>2</sub>)-Ser-Thr-Gly-Gly-Lys-Ala-Pro-Arg-OH, [Lys(Me<sub>2</sub>)<sub>9</sub>]-Histone H3 (3-17), TKQTAR-K(Me<sub>2</sub>)-STGGKAPR

H-Thr-Lys-Gln-Thr-Ala-Arg-Lys(Me<sub>2</sub>)-Ser-Thr-Gly-Gly-Lys-Ala-Pro-Arg-OH  
 Gly-Lys-Ala-Pro-Arg-OH  
 • XCF<sub>3</sub>COOH

**MF:** C<sub>67</sub>H<sub>123</sub>N<sub>25</sub>O<sub>21</sub> • XCF<sub>3</sub>COOH

**FW:** 1,614.9

**Purity:** ≥95%

**Supplied as:** A solid

**Storage:** -20

**Stability:** ≥4 years

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

### Laboratory Procedures

Histone H3K9Me2 (3-17) (human, mouse, rat, porcine, bovine) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the histone H3K9Me2 (3-17) (human, mouse, rat, porcine, bovine) (trifluoroacetate salt) in water. The solubility of histone H3K9Me2 (3-17) (human, mouse, rat, porcine, bovine) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Histone H3K9Me2 (3-17) is a peptide fragment of histone H3 that corresponds to amino acid residues 4-18 of the human histone H3 sequence. Dimethylation of histone H3 at lysine 9 is associated with transcriptional repression.<sup>1</sup> Heterochromatin protein 1-α (HP1-α), HP1-β, and HP1-γ selectively bind histone H3 N-terminal peptides containing dimethylated lysine 9 over unmodified lysine 9.<sup>2</sup> In mouse embryos, maternal chromatin containing H3K9Me2 is bound by PGC7, which preserves DNA methylation and protects 5-methylcytosine from conversion to 5-hydroxymethylcytosine.<sup>3</sup>

### References

- Lienert, F., Mohn, F., Tiwari, V.K., *et al.* Genomic prevalence of heterochromatic H3K9me2 and transcription do not discriminate pluripotent from terminally differentiated cells. *PLoS Genet.* **7(6)**, e1002090 (2011).
- Lachner, M., O'Carroll, D., Rea, S., *et al.* Methylation of histone H3 lysine 9 creates a binding site for HP1 proteins. *Nature* **410(6824)**, 116-120 (2001).
- Nakamura, T., Liu, Y.-J., Nakashima, H., *et al.* PGC7 binds histone H3K9me2 to protect against conversion of 5mC to 5hmC in early embryos. *Nature* **486(7403)**, 415-419 (2012).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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