

**Rabbit Anti-Histone H3 Tri-Methyl Lys9/H3K9Me3 Polyclonal: RC0185**

**Intended Use:** For Research Use Only

**Description:** The Histone H3 is one of the five main histone proteins involved in the structure of chromatin in eukaryotic cells. Featuring a main globular domain and a long N-terminal tail, H3 is involved with the structure of the nucleosomes of the 'beads on a string' structure. The N-terminal tail of histone H3 protrudes from the globular nucleosome core and can undergo several different types of epigenetic modifications that influence cellular processes. These modifications include the covalent attachment of methyl or acetyl groups to lysine and arginine amino acids and the phosphorylation of serine or threonine. Arginine methylation of histones H3 (Arg2, 17, 26) and H4 (Arg3) promotes transcriptional activation and is mediated by a family of protein arginine methyltransferases (PRMTs), including the co-activators PRMT1 and CARM1 (PRMT4). In contrast, a more diverse set of histone lysine methyltransferases have been identified, all but one of which contain a conserved catalytic SET domain originally identified in the *Drosophila* Su(var)3-9, Enhancer of zeste and Trithorax proteins. Lysine methylation occurs primarily on histones H3 (Lys4, 9, 27, 36, 79) and H4 (Lys20) and has been implicated in both transcriptional activation and silencing. Methylation of these lysine residues coordinates the recruitment of chromatin modifying enzymes containing methyl-lysine binding modules such as chromodomains (HP1, PRC1), PHD fingers (BPTF, ING2), tudor domains (53BP1) and WD-40 domains (WDR5). H3K9me3 functions in the repression of euchromatic genes, and in epigenetic control of heterochromatin assembly, most likely via acting as a recognition motif for the binding of chromatin-associated proteins, such as Swi6 or HP1 $\alpha/\beta$ .

**Specifications**

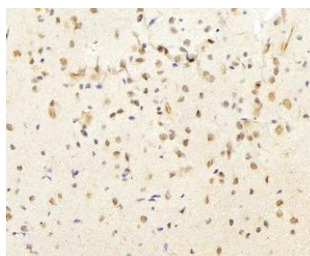
Clone:	Polyclonal
Source:	Rabbit
Isotype:	IgG
Reactivity:	Human, mouse, rat
Immunogen:	A synthetic methylated peptide corresponding to residues surrounding K9 of human histone H3
Localization:	Nucleus, chromosome
Formulation:	Antibody in PBS pH7.4, containing BSA and $\leq 0.09\%$ sodium azide (NaN <sub>3</sub> )
Storage:	Store at 2°- 8°C
Applications:	IHC, IF, IP, WB
Package:	

Description	Catalog No.	Size
Histone H3 Tri-Methyl Lys9/H3K9Me3 Concentrated	RC0185	1 ml

**IHC Procedure**

Positive Control Tissue:	Colon, HeLa cells
Concentrated Dilution:	10-50
Pretreatment:	Citrate pH6.0 or EDTA pH8.0, 15 minutes using Pressure Cooker, or 30-60 minutes using water bath at 95°-99°C
Incubation Time and Temp:	Overnight @ 4°C
Detection:	Refer to the detection system manual

\* Result should be confirmed by an established diagnostic procedure.



FFPE mouse brain stained with anti-Histone H3 Tri-Methyl Lys9 using DAB

**References:**

1. Heterochromatin loss as a determinant of progerin-induced DNA damage in Hutchinson-Gilford Progeria. Chojnowski A, et al. Aging Cell 19:e13108, 2020.

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