



## Technical Data Sheet

Diagenode sa

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**Product name:**

antibody directed against H3K27me2/3

(Histone H3 [di- and tri-methylated lysine 27])

<b>Catalog #:</b> MAb-014-050	<b>Type:</b> Monoclonal	<b>Size:</b> 50 µg/ 34 µl
<b>Lot #:</b> 001	<b>Source:</b> Mouse	<b>Concentration:</b> 1.5 µg/µl

**Description:** This antibody has been raised against the region of the histone H3 containing the methylated lysine 27.

**Specificity:** Human: positive  
Other species: not tested

Applications	Suggested dilution	References
ELISA	Not tested	
Dot blotting	1:300	Fig 1
Western blotting	1:1,000	Fig 2
Gel Supershift	Not tested	
Immunochemistry	-	[1, 2]
Flow cytometry	Not tested	
Immunoprecipitation	Not tested	
ChIP	-	[1]

**Format:** In solution in PBS including 0.05% azide and 0.05% ProClin 300. The monoclonal antibody has been protein G purified.

Methylation of histone H3K27 is involved in gene repression (see overview below).

**Storage:** For long storage, store at -20°C. Avoid multiple freeze-thaw cycles.

**Precautions:** This product is for research use only. Not for use in diagnostic or therapeutic procedures.

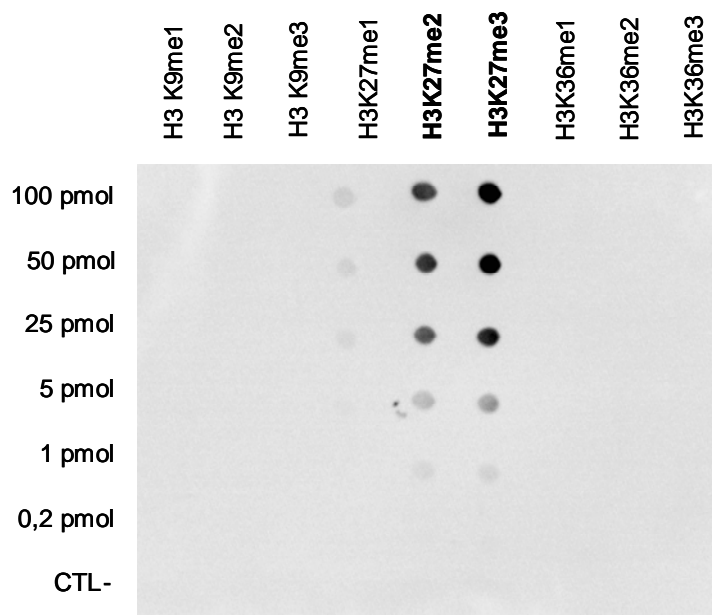
**References:**

- [1] Rougeulle C., Chaumeil J., Sarma K., Allis C.D., Reinberg D., Avner P. and Heard E. 2004. *Mol. Cel. Biol.* 24(12):5475-84.  
[2] Sarma K., Nishioka K. and Reinberg D. 2004. *Methods Enzymol.* 376:255-69.

- [3] Strahl B. and Allis C. 2000. *Nature* 403(6765):41-5.  
 [4] Zheng C. and Hayes J.J. 2003. *J. Biol. Chem.* 278(26):24217-24.  
 [5] Shi Y. and Whetstine J.R. 2007. *Mol. Cell.* 25(1):1-14.  
 [6] Jenuwein T. and Allis C. 2001. *Science* 293(5532):1074-80.

**Availability date:** March 02, 2007. Last data sheet update: August 3, 2007

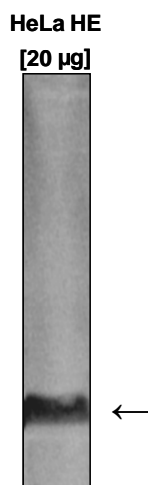
**Figure 1**



**Cross reactivity tests using the Diagenode antibody directed against H3K27me2/3.**

Dot Blot is performed to determine the cross-reactivity of the Diagenode antibody anti-H3K27me2/3 (cat# MAb-014-050) with other histone modifications. Other histone modifications include mono-methylation of lysine 27 and mono-, di- and trimethylation of two other lysines of H3 (K9 and K36). To determine the cross-reactivity, 0.2 to 100 pmol of peptide containing the respective histone modifications are spotted on a membrane. The antibody is used at a dilution of 1:300. The antibody recognizes di- and trimethylation of lysine 27 on histone H3.

**Figure 2**



**Western blot analysis using the Diagenode antibody anti-H3K27me2/3.**

Western blot was performed using histone extracts from HeLa cells (HeLa HE, 20 µg) and the Diagenode antibody directed against anti-H3K27me2/3 (cat# MAb-013-050) at dilution 1:1,000 in TBS-Tween + 5% skimmed milk. The location of the protein of interest is indicated with an arrow.

**Overview**

Histones are molecules found in the chromosomes of eukaryotic cells. They are rich in the amino acids arginine and lysine and have been greatly conserved during evolution. Histones complex with the DNA and pack the DNA into tight masses of chromatin. Two core histones of each class H2A, H2B, H3 and H4 assemble and are wrapped by 146 base pairs of DNA to form one octameric nucleosome. Histone tails undergo numerous post-translational modifications, which either directly or indirectly alter chromatin structure to facilitate transcriptional activation or repression or other nuclear processes [3,4]. Histone methylation and demethylation is dynamically regulated by respectively histone methyl transferases and histone demethylases [5]. Combinations of modifications are thought to constitute a code, the so-called "histone code" [6].