

PRODUCT NAME		
H4K20me3 polyclonal antibody		
(Histone H4 [trimethylated lysine 20])		
Cat. No. C15310057 (CS-057-100)	Type: Polyclonal ChIP-grade	Size: 100 µl
Lot #: A9-002	Source: Rabbit	Concentration: not determined

Product description: Polyclonal antibody raised in rabbit against histone H4 containing the trimethylated lysine 20 (H4K20me3), using a KLH-conjugated synthetic peptide.

Specificity: Human: positive
Other species: not tested

Applications	Suggested dilution	References
ChIP	1:100	Fig 1
ELISA	1:50	Fig 2
Dot blotting	1:1,000	Fig 3
Western blotting	1:750	Fig 4

Purity: Whole antiserum from rabbit containing 0.05% azide.

Storage: Store at -20°C; for long storage, store at -80°C. Avoid multiple freeze-thaw cycles.

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

Last data sheet update: April 22, 2011

Target description

Histones are the main constituents of the protein part of chromosomes of eukaryotic cells. They are rich in the amino acids arginine and lysine and have been greatly conserved during evolution. Histones 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. In addition to the genetic code, combinations of the different histone modifications reveal the so-called "histone code". Histone methylation and demethylation is dynamically regulated by respectively histone methyl transferases and histone demethylases. H4K20me3 is a marker for heterochromatin.

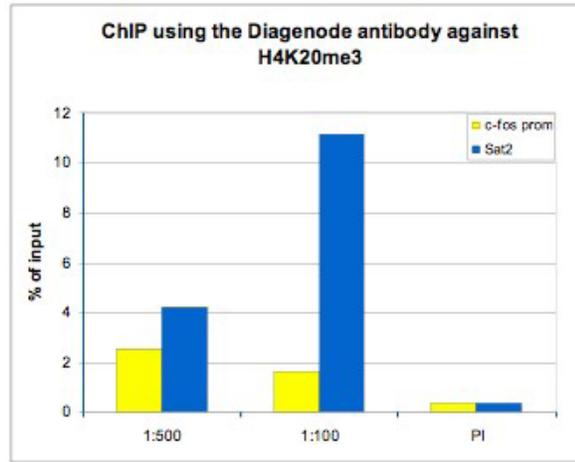


Figure 1
ChIP results obtained with the Diagenode antibody directed against H4K20me3

ChIP assays were performed using undifferentiated human teratocarcinoma cells (NCCIT), the Diagenode antibody against H4K20me3 (cat. No. CS-057-100) and optimized PCR primer sets for qPCR. Sheared chromatin from 10,000 cells was used per ChIP experiment. The antibody was tested at two different dilutions of 1:500 and 1:100. The pre-immune serum (PI) was used as a negative control. Quantitative PCR was performed using primer sets for the satellite repeat Sat2 as a positive control and for the promoter of the house keeping gene c-fos, as a negative control. Figure 1 shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis). These results are in accordance with the observation that H4K20me3 is preferably present at heterochromatin.

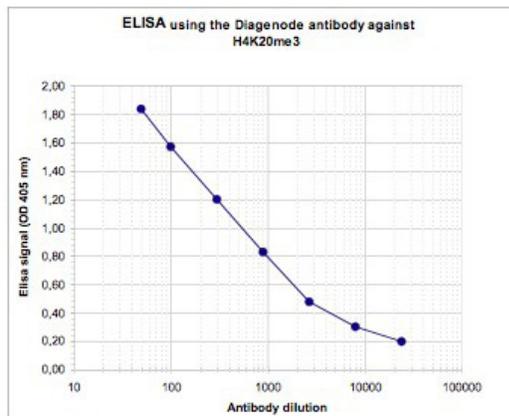


Figure 2
Determination of the titer

To determine the titer, an ELISA was performed using a serial dilution of the Diagenode antibody directed against H4K20me3 (cat. No. CS-057-100). The antigen used was a peptide containing the histone modification of interest. By plotting the absorbance against the antibody dilution (Figure 2), the titer of the antibody was estimated to be 1:700.

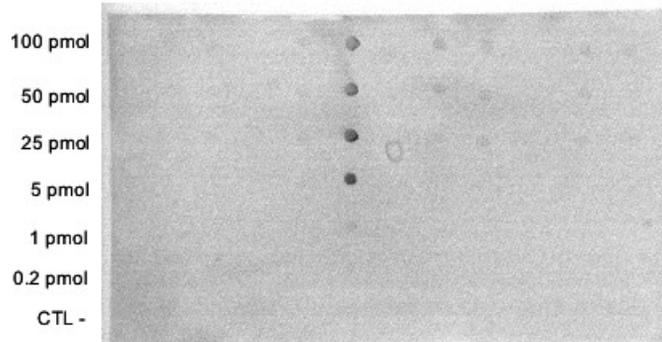


Figure 3

Cross reactivity test using the Diagenode antibody directed against H4K20me3

Dot Blot was used to check the specificity of the Diagenode antibody against H4K20me3 (cat. No. CS-057-100) with peptides containing other modifications of histone H3 and H4. Other histone modifications include mono- and dimethylation of the same lysine and mono-, di- and trimethylation of lysines 9, 27 and 36 of H3. One hundred to 0.2 pmol of peptide containing the respective histone modification were spotted on a membrane. The antibody was used at a dilution of 1:1,000. Figure 3 shows a high specificity of the antibody for the modification of interest.

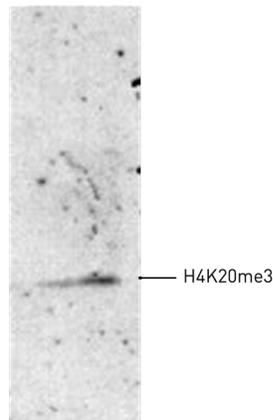


Figure 4

Western blot analysis using the Diagenode antibody directed against H4K20me3

Histone (acid) extracts of NB4 cells were analysed by Western blot using the Diagenode antibody against H4K20me3 (cat. No.: CS-057-100), diluted 1:750 in TBS-Tween containing 5% skimmed milk. The location of the protein of interest is indicated on the right.