SM1872P
Acris Antibodies GmbH

US office:
Acris Antibodies, Inc.
San Diego, CA
UNITED STATES
Phone: +1-858-888-7900
Fax: +1-858-888-7904
US-info@acris-antibodies.com

Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info@acris-antibodies.com

Monoclonal Antibody to 5-Methyl Cytosine (5-MeC) - Purified

Alternate names: 5-MeCyd, 5-Methyl Cytidine, 5-Methylcytidine, 5MeC

Catalog No.: SM1872P

Quantity: 0.1 mg

Concentration: 1.0 mg/ml

Background: Cytosine is a nucleobase whilst cytidine is a molecule (known as a nucleoside) that is formed when Cytosine is attached to a Ribose ring (also known as a Ribofuranose) via a beta-N1-glycosidic bond.

Host / Isotype: Mouse / IgG1

Clone: 33D3

Immunogen: Spleen cells from immunised Balb/c mice were fused with cells of the Sp2/0Ag 14 myeloma cell line

Format:
State: Liquid purified IgG fraction.
Purification: Protein A affinity chromatography.
Buffer System: 10 mM PBS, pH 7.4

Applications:
Flow Cytometry: Membrane permeabilisation may be required for this application. Cell pretreatment before staining is described in Ref.4 (Giraldo, A. M. et al.)
Immunoblotting.
Immunofluorescence.
Immunohistochemistry on Frozen and Paraffin Embedded Sections: This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. Sodium citrate buffer pH 6.0 is recommended for this purpose.
This antibody has been reported for use in **Methylated DNA Immunoprecipitation (MeDIP).**
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody recognises the modified base 5-Methylcytidine (5-MeCyd) found in DNA of plants and vertebrates. DNAmethylation is a DNA modification process, which is involved in the control of gene expression.
Clone 33D3 has been developed to discriminate between the modified base 5-MeCyd and the normal counterpart Cytosine.
Reports suggest that in tumours, DNA is frequently globally hypomethylated compared to the DNA from normal tissue.

Species Reactivity: **Tested:** Human, Rat and Mouse.

Storage: Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General References: 1. Reynaud, C. et al. (1992) Monitoring of urinary excretion of modified nucleosides in cancer patients using a set of six monoclonal antibodies. Cancer Lett. 61: 255-262.
2. Habib, M. et al. (1999) DNA Global Hypomethylation in EBV - Transformed Interphase Nuclei. Exp. Cell. Res. 249: 46-53.
3. Hernandez-Blazquez, F. et al. (2000) Evaluation of global DNA hypomethylation in human colon cancer tissues by immunohistochemistry and image analysis. Gut. 47: 689-693.
4. Giraldo, A. M. et al. (2007) DNA methylation and histone acetylation patterns in cultured bovine fibroblasts for nuclear transfer. Mol. Reprod. Dev. 74: 1514-1524.
5. Shen, R. et al. (2009) Reversibility of aberrant global DNA and estrogen receptor-alpha gene methylation distinguishes colorectal precancer from cancer. Int J Clin Exp Pathol. 2:21-33.
6. Pontes, O. et al. (2007) Postembryonic establishment of megabase-scale gene silencing in nucleolar dominance. PLoS One. 2: e1157.
7. Yang, F. et al. (2010) Trichostatin A and 5-azacytidine both cause an increase in global histone H4 acetylation and a decrease in global DNA and H3K9 methylation during mitosis in maize. BMC Plant Biol. 10: 178.
8. Suter, J.D. et al. (2010) Label-free DNA methylation analysis using opto-fluidic ring resonators. Biosens Bioelectron. 26: 1016-20.