

For Research Use Only

# Chemical compound 5-methylcytosine Monoclonal antibody, PBS Only

Catalog Number: 68301-1-PBS



## Basic Information

Catalog Number:

68301-1-PBS

Size:

1 mg/ml

Source:

Mouse

Isotype:

IgG2b

GenBank Accession Number:

GeneID (NCBI):

Full Name:

Purification Method:

Protein A purification

CloneNo.:

2C9G9

## Applications

Tested Applications:

IHC, Dot Blot, ELISA, Indirect ELISA

Species Specificity:

5mc, chemical compound, m5c

## Background Information

In eukaryotes, 5-methylcytosine in DNA (5mC) and its oxidized derivatives (5-hydroxymethylcytosine (5hmC), 5-formylcytosine (5fC), and 5-carboxylcytosine (5caC)) are the most prominent modifications and have been suggested to contribute to epigenetic gene regulation through a variety of different mechanisms. m5C has also been found in mRNA, rRNA and tRNA of representative organisms from all kinds of species. As reversible epigenetic modifications, m5C modifications of RNA affect the fate of the modified RNA molecules and play important roles in various biological processes including RNA stability control, protein synthesis, and transcriptional regulation (PMID: 35365216). This antibody can recognize both 5mC in DNA and m5C in RNA.

Protocol for Dot Blot:

<https://www.ptglab.com/protocol/68301-1-IgDotBlot.pdf>

## Storage

Storage:

Store at -80°C.

**The product is shipped with ice packs. Upon receipt, store it immediately at -80°C**

Storage Buffer:

PBS Only

For technical support and original validation data for this product please contact:

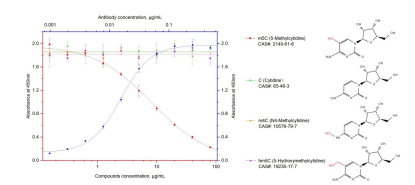
T: 4006900926

E: [Proteintech-CN@ptglab.com](mailto:Proteintech-CN@ptglab.com)

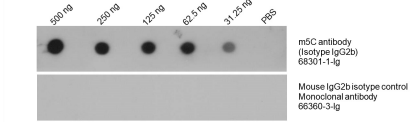
W: [ptgcn.com](http://ptgcn.com)

**This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.**

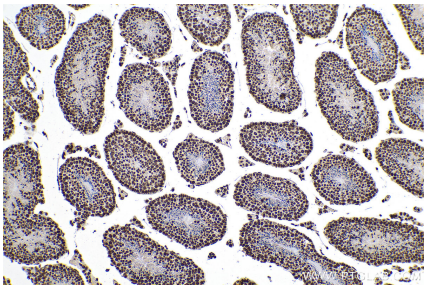
Selected Validation Data



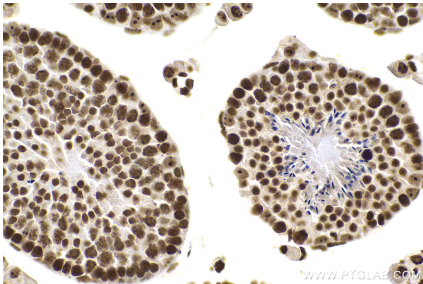
Indirect ELISA and competitive ELISA results show that this antibody is specific to m5C. Indirect ELISA (blue curve, refer to top X-right Y axis) was performed by coating BSA conjugated m5C at 0.4ng/well followed by blocking with 1% BSA. Serial diluted primary antibody was added to the plates and incubated at 37 °C. HRP-goat anti-mouse was used for detection. Competitive ELISA was performed similarly except that different concentration of m5C or its structure analogue



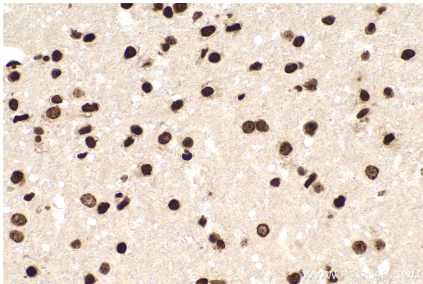
Total DNA was isolated from HeLa cell line and was dotted to NC membrane at different amount as indicated above the dots. The membrane was blocked with BSA and blotted with 5-methylcytosine antibody 68301-1-Ig at 1:5000 followed by incubation of HRP-goat anti-mouse secondary antibody. Signal was developed by ECL substrate. A parallel dot blot was performed using Mouse IgG2b isotype control Monoclonal antibody 66360-3-Ig at the same dose. This data was developed



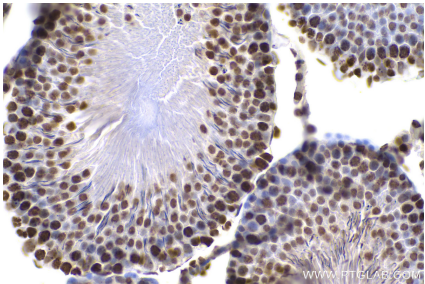
Immunohistochemical analysis of paraffin-embedded mouse testis tissue slide using 68301-1-Ig (5-methylcytosine antibody) at dilution of 1:5000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0). This data was developed using the same antibody clone with 68301-1-PBS in a different storage buffer formulation.



Immunohistochemical analysis of paraffin-embedded mouse testis tissue slide using 68301-1-Ig (5-methylcytosine antibody) at dilution of 1:5000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0). This data was developed using the same antibody clone with 68301-1-PBS in a different storage buffer formulation.



Immunohistochemical analysis of paraffin-embedded rat brain tissue slide using 68301-1-Ig (5-methylcytosine antibody) at dilution of 1:5000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0). This data was developed using the same antibody clone with 68301-1-PBS in a different storage buffer formulation.



Immunohistochemical analysis of paraffin-embedded rat testis tissue slide using 68301-1-Ig (5-methylcytosine antibody) at dilution of 1:5000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0). This data was developed using the same antibody clone with 68301-1-PBS in a different storage buffer formulation.