For Research Use Only

5-methylcytosine Monoclonal antibody

Catalog Number:68301-1-Ig 7 Publications

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Basic Information

Catalog Number:
68301-1-Ig

Size:
150ul , Concentration: 500 ug/ml by Nanodrop;

Source:
Mouse

Isotype:
IgG2b

GenBank Accession Number:

GeneID (NCBI):

Full Name:

Purification Method:
Protein A purification

CloneNo.:
2C9G9

Recommended Dilutions:
IHC 1:2500-1:10000
Dot Blot 1:2500-1:10000

Applications

Tested Applications:
IHC, Dot Blot, ELISA

Cited Applications:
WB, IHC, IF

Species Specificity:
5mc, chemical compound, m5c

Cited Species:
human, mouse

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

IHC : mouse testis tissue, rat brain tissue, rat testis tissue

Dot Blot : HeLa cells,

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

Notable Publications

Author	Pubmed ID	Journal	Application
Gaichao Zhao	40033337	J Exp Clin Cancer Res	IHC
Yiran Yang	40029463	Cancer Immunol Immunother	
Kaifeng Niu	39742570	Redox Biol	WB

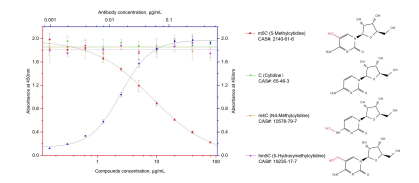
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

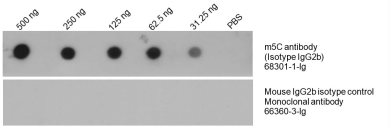
*** 20ul sizes contain 0.1% BSA

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

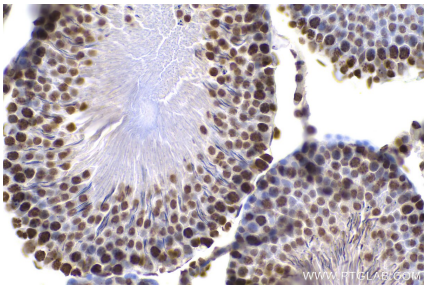
Selected Validation Data



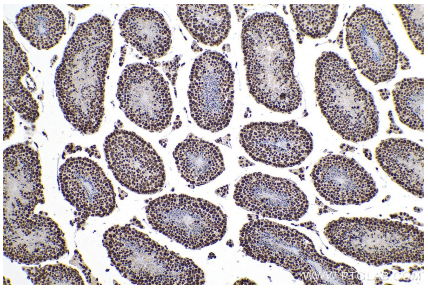
Indirect ELISA and competitive ELISA results show that this antibody is specific to m5C. Indirect ELISA (blue curve, refer to top X-right Y axis) was performed by coating BSA conjugated m5C at 0.4ng/well followed by blocking with 1% BSA. Serial diluted primary antibody was added to the plates and incubated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



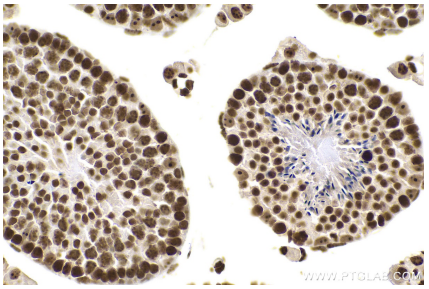
Total DNA was isolated from HeLa cell line and was dotted to NC membrane at different amount as indicated above the dots. The membrane was blocked with BSA and blotted with 5-methylcytosine antibody 68301-1-Ig at 1:5000 followed by incubation of HRP-goat anti-mouse secondary antibody. Signal was developed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



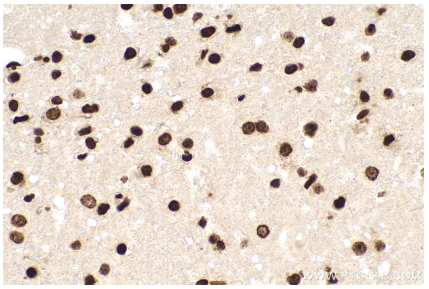
Immunohistochemical analysis of paraffin-embedded rat testis tissue slide using 68301-1-Ig (5-methylcytosine antibody) at dilution of 1:5000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



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).



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).



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).