For Research Use Only

Na 5-Hydroxymethylcytidine Monoclonal antibody, PBS Only

Catalog Number:68579-1-PBS

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Antibodies | ELISA kits | Proteins
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Basic Information

Catalog Number:
68579-1-PBS

Size:
100ug , Concentration: 1 mg/ml by Nanodrop;

Source:
Mouse

Isotype:
IgG1

GenBank Accession Number:

GeneID (NCBI):

Full Name:

Purification Method:
Protein G purification

CloneNo.:
1E6C6

Applications

Tested Applications:
ELISA, Dot Blot, Indirect ELISA

Species Specificity:
Human

Background Information

Oxidation of 5-methylcytosine in DNA by ten-eleven translocation (Tet) family of enzymes has been demonstrated to play a significant role in epigenetic regulation in mammals. Recent reaearch shows that Tet enzymes also possess the activity of catalyzing the formation of 5-hydroxymethylcytidine (5-hmrC) in RNA. It is known that RNA carries more than 100 distinct types of modifications, and these modifications modulate the structure and functions of RNA. Ribonucleoside 5-methylcytidine (m5C) is subject to oxidative processing in mammals, forming 5-hydroxymethylcytidine (hm5C) and 5-formylcytidine (f5C). Researchers have identified hm5C in total RNA from all three domains of life and in polyA-enriched RNA fractions from mammalian cells. This suggests m5C oxidation is a conserved process that could have critical regulatory functions inside cells (PMID: 25676849).

Storage

Storage:
Store at -80°C.
Storage Buffer:
PBS Only

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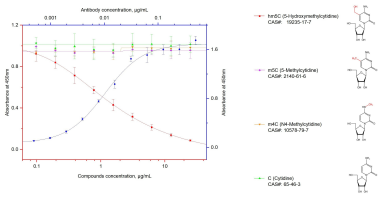
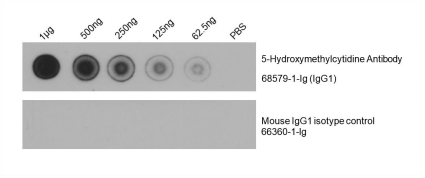
Selected Validation Data



Indirect ELISA and competitive ELISA results show that this antibody is specific to 5-Hydroxymethylcytidine (hm5C). Indirect ELISA was performed by coating BSA conjugated 5-Hydroxymethylcytidine (hm5C) at 10ng/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 5-



Total RNA 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-Hydroxymethylcytidine (hm5C) antibody 68579-1-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 IgG1 isotype control antibody 66360-1-Ig at the same dose. This data was