For Research Use Only

5-Hydroxymethylcytidine Monoclonal antibody

Catalog Number:68579-1-Ig

proteintech®
Antibodies | ELISA kits | Proteins
www.ptglab.com

Basic Information

Catalog Number:
68579-1-Ig

Size:
1000 ug/ml

Source:
Mouse

Isotype:
IgG1

GenBank Accession Number:

GeneID (NCBI):

Full Name:

Purification Method:
Protein G purification

CloneNo.:
1E6C6

Recommended Dilutions:
ELISA 1:2000-1:20000
Dot Blot 1:1000-1:4000

Applications

Tested Applications:
Dot Blot, ELISA

Species Specificity:
chemical compound

Positive Controls:

ELISA : 5-Hydroxymethylcytidine,

Dot Blot : RNA,

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).

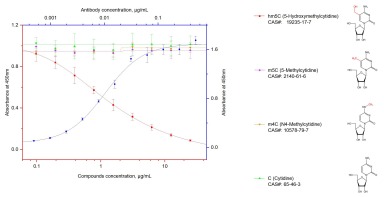
Protocol for Dot Blot:
https://www.ptglab.com/protocol/68579-1-IgDotBlot.pdf

Storage

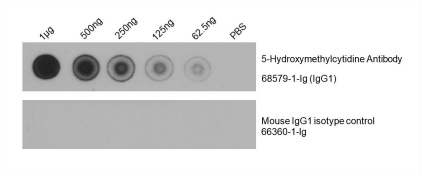
Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
T: 4006900926 E: Proteintech-CN@ptglab.com W: ptgcn.com

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℃. 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.