

For Research Use Only

5-Hydroxymethylcytidine Monoclonal antibody



Catalog Number: 68579-1-Ig

Basic Information

Catalog Number: 68579-1-Ig	GenBank Accession Number: GeneID (NCBI):	Purification Method: Protein G purification
Size: 150ul , Concentration: 1000 µg/ml by Nanodrop;	Full Name:	CloneNo.: 1E6C6
Source: Mouse		Recommended Dilutions: ELISA 1:2000-1:20000 Dot Blot 1:1000-1:4000
Isotype: IgG1		

Applications

Tested Applications: Dot Blot, ELISA	Positive Controls: ELISA : 5-Hydroxymethylcytidine, Dot Blot : RNA,
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 research shows that Tet enzymes also possess the activity of catalyzing the formation of 5-hydroxymethylcytidine (5-hmC) 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 -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

*** 20ul sizes contain 0.1% BSA

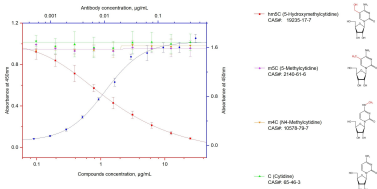
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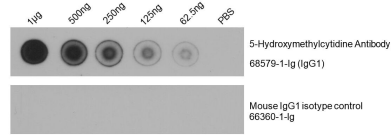
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Selected Validation Data



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



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