5-Formylcytosine (5-fC) antibody (pAb)

Catalog Nos: 61223, 61224
RRID: AB_2687953
Isotype: Serum
Application(s): DB, ICC, IF, IHC, WB
Reactivity: Not Species Specific

Volumes: 100 µl, 10 µl
Purification: None
Host: Rabbit

Background: DNA methylation is an epigenetic event in which DNA methyltransferases (DNMTs) catalyze the reaction of a methyl group to the fifth carbon of cytosine in a CpG dinucleotide. This modification helps to control gene expression and is also involved in genomic imprinting, while aberrant DNA methylation is often associated with disease. 5-methylcytosine is a modified base that is found in the DNA of plants and vertebrates. A second type of DNA methylation exists, 5-hydroxymethylcytosine (5-hydroxy methylcytosine, 5-hmC). This results from the enzymatic conversion of 5-methylcytosine into 5-hydroxymethylcytosine by the TET family of cytosine oxygenases. Iterative activity of TET on 5-hydroxymethylcytosine results in the conversion of 5-hmC into 5-formylcytosine and 5-carboxylcytosine. An increase in levels of 5-formylcytosine and 5-carboxylcytosine are detected in the mouse male pronucleus following fertilization, which is gradually diluted by DNA replication.

Immunogen: This 5-Formylcytosine antibody was raised against 5-formylcytidine conjugated to KLH and recognizes 5-formylcytosine.

Buffer: Rabbit serum containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:
Applications Validated by Active Motif:
DB: 1:5,000 dilution

Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.

Dot blot analysis was used to confirm the specificity of 5-Formylcytosine antibody for 5-Formylcytidine
10 ng of single-stranded 38 nt DNA oligonucleotides were spotted onto nitrocellulose and probed with the antibody at 1:10,000. Lane 1: oligo containing unmodified cytidine. Lane 2: oligo containing 5-methylcytidine . Lane 3: oligo containing 5-hydroxymethylcytidine. Lane 4: oligo containing 5-formylcytidine. Lane 5: oligo containing 5-carboxylcytidine.