

Datasheet: AHP1826Z

**BATCH NUMBER 165063**

<b>Description:</b>	SHEEP ANTI 5-METHYLCYTOSINE:Preservative Free
<b>Specificity:</b>	5-METHYLCYTOSINE
<b>Format:</b>	Preservative Free
<b>Product Type:</b>	Polyclonal Antibody
<b>Isotype:</b>	Polyclonal IgG
<b>Quantity:</b>	0.1 mg

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen (1)	▪			10ug/ml
Immunohistology - Paraffin (2)	▪			10ug/ml
ELISA			▪	
Immunoprecipitation	▪			25 - 100ug/ml
Western Blotting	▪			1:1000
Immunofluorescence	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

**(1) Using a fixation step in cold methanol for 30 minutes followed by immersion in 0.007 M NaOH for 10-15 seconds allows staining with the simultaneous detection of nuclear cytoplasmic and membrane components, as well as preservation of morphological detail.**

**(2)\* Using a fixation step in cold methanol for 30 minutes followed by immersion in 0.007 M NaOH for 10-15 seconds allows staining with the simultaneous detection of nuclear cytoplasmic and membrane components, as well as preservation of morphological detail.**

<b>Target Species</b>	Broad
<b>Species Cross</b>	Reacts with: Rat

<b>Reactivity</b>	<b>N.B.</b> Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.
<b>Product Form</b>	Purified IgG - liquid
<b>Antiserum Preparation</b>	Antiserum to 5-MeC was raised by repeated immunisation of sheep with highly purified antigen. Purified IgG was prepared by affinity chromatography.
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	None present
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0mg/ml
<b>Immunogen</b>	Keyhole limpet haemocyanin (KLH) conjugated 5-methylcytosine.
<b>RRID</b>	AB_1898236
<b>Specificity</b>	<p><b>Sheep Anti 5-Methylcytosine (5-MeC)</b> recognizes the methylated form of cytosine (C), an epigenetic modification catalyzed by DNA methyltransferases resulting in the attachment of a methyl group to carbon 5. This modification alters the structure of cytosine but not its base-pairing properties. The timing and function of cytosine methylation varies amongst species with roles in such processing events as transcription and recombination. For example, in mammals, methylation occurring during early development and embryogenesis functions in X chromosome inactivation and gene imprinting, whereas in plants, DNA methylation occurs later and affects genomic stability through silencing of transposable elements (<a href="#">He et al. 2011</a>).</p> <p>The deamination of 5-MeC results in the formation of thymine (T) instead of uracil. Since thymine is not recognized by DNA repair enzymes, cytosine to thymine conversions can cause transition mutations. The most frequent mutations in human genetic diseases are those involving C to T transitions occurring at CG sites (<a href="#">Morgan et al. 2004</a>). Another type of mutation involving 5-MeC involves the formation of pyrimidine dimers. Upon exposure to sunlight, pyrimidine dimers form preferentially at dipyrimidine sequences containing 5-MeC, a mutation frequently seen in human skin cancers (<a href="#">Pfeifer et al. 2005</a>).</p> <p>Sheep Anti-5-MeC is reported as suitable for use in immunocytochemistry.</p>
<b>References</b>	<ol style="list-style-type: none"> <li>Hiura, H. <i>et al.</i> (2010) A tripartite paternally methylated region within the Gpr1-Zdbf2 imprinted domain on mouse chromosome 1 identified by meDIP-on-chip. <a href="#">Nucleic Acids Res. 38 (15): 4929-45.</a></li> <li>Pontes, O. <i>et al.</i> (2009) RNA polymerase V functions in <i>Arabidopsis</i> interphase heterochromatin organization independently of the 24-nt siRNA-directed DNA methylation pathway. <a href="#">Mol Plant. 2: 700-10.</a></li> </ol>

**Storage** Store at -20°C only.  
Storage in frost-free freezers is not recommended.  
This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10162 available at:  
<https://www.bio-rad-antibodies.com/SDS/AHP1826Z>  
10162

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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Sheep IgG (H/L) (5184-2304...) [Biotin](#)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets)

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