Datasheet: AHP1826Z

BATCH NUMBER 165063

Description:	SHEEP ANTI 5-METHYLCYTOSINE:Preservative Free
Specificity:	5-METHYLCYTOSINE
Format:	Preservative Free
Product Type:	Polyclonal Antibody
Isotype:	Polyclonal IgG
Quantity:	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.

	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.**

Target Species	Broad
Species Cross	Reacts with: Rat

Reactivity	**N.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.
Product Form	Purified IgG - liquid
Antiserum Preparation	Antiserum to 5-MeC was raised by repeated immunisation of sheep with highly purified antigen. Purified IgG was prepared by affinity chromatography.
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	None present
Approx. Protein Concentrations	IgG concentration 1.0mg/ml
Immunogen	Keyhole limpet haemocyanin (KLH) conjugated 5-methylcytosine.
RRID	AB_1898236
Specificity	**Sheep Anti 5-Methylcytosine (5-MeC)** 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 occuring during early development and emrbyogensis functions in X chromosome inactivation and gene imprinting, wherease in plants, DNA methylation occurs later and affects genomic stability through silencing of transposable elements (He *et al.* 2011). 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 (Morgan *et al.* 2004). 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 (Pfeifer *et al.* 2005). Sheep Anti-5-MeC is reported as suitable for use in immunocytochemistry.
References	1. Hiura, H. *et al.* (2010) A tripartite paternally methylated region within the Gpr1-Zdbf2 imprinted domain on mouse chromosome 1 identified by meDIP-on-chip. Nucleic Acids Res. 38 (15): 4929-45. 2. Pontes, O. *et al.* (2009) RNA polymerase V functions in *Arabidopsis* interphase heterochromatin organization independently of the 24-nt siRNA-directed DNA methylation pathway. Mol Plant. 2: 700-10.

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.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10162 available at: https://www.bio-rad-antibodies.com/SDS/AHP1826Z 10162
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

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

North & South America
Tel: +1 800 265 7376
Fax: +1 919 878 3751
Email: antibody_sales_us@bio-rad.com

Worldwide
Tel: +44 (0)1865 852 700
Fax: +44 (0)1865 852 739
Email: antibody_sales_uk@bio-rad.com

Europe
Tel: +49 (0) 89 8090 95 21
Fax: +49 (0) 89 8090 95 50
Email: antibody_sales_de@bio-rad.com

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

'M364063:200529'

Printed on 01 Mar 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint