

# Datasheet: MCA2228F

**BATCH NUMBER 174350**

|                      |                                                      |
|----------------------|------------------------------------------------------|
| <b>Description:</b>  | MOUSE ANTI SHEEP MHC CLASS II DQ DR POLYMORPHIC:FITC |
| <b>Specificity:</b>  | MHC CLASS II DQ DR POLYMORPHIC                       |
| <b>Format:</b>       | FITC                                                 |
| <b>Product Type:</b> | Monoclonal Antibody                                  |
| <b>Clone:</b>        | 49.1                                                 |
| <b>Isotype:</b>      | IgG2a                                                |
| <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 | ▪   |    |                | 1/10               |

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.

### Target Species

Sheep

### Species Cross Reactivity

Reacts with: Goat, Human, Bovine

**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 conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

### Max Ex/Em

| Fluorophore | Excitation Max (nm) | Emission Max (nm) |
|-------------|---------------------|-------------------|
| FITC        | 490                 | 525               |

### Preparation

Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

### Buffer Solution

Phosphate buffered saline

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preservative</b>                   | 0.09% sodium azide (NaN <sub>3</sub> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Stabilisers</b>                    | 1% bovine serum albumin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Approx. Protein Concentrations</b> | IgG concentration 0.1 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>RRID</b>                           | AB_567329                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Specificity</b>                    | <p><b>Mouse anti Sheep MHC class II DQ DR antibody, clone 49.1</b> recognizes a polymorphic epitope on ovine MHC class II DQ and DR molecules, constitutively expressed on antigen presenting cells including dendritic cells, B lymphocytes, monocytes, macrophages, activated T lymphocytes and may be induced on a range of other cell types by interferon gamma.</p> <p>The major histocompatibility complex (MHC) is a cluster of genes some of which are important in the immune response to infection. In sheep, this complex is referred to as the ovine leukocyte antigen (OLA) region. There are 2 major types of MHC class IIa molecules encoded by the OLA which are DR and DQ each composed of an alpha and beta chain.</p> <p>Mouse anti Sheep MHC class II Dq DR antibody, clone 49.1 recognizes ovine MHC II transfectants DQ - T28.1, DQ - T26.2 and DR - T31.3 but not DR - T8.1 (<a href="#">Ballingall <i>et al.</i> 1995</a>).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Flow Cytometry</b>                 | Use 10µl of the suggested working dilution to label 1 x 10 <sup>6</sup> cells in 100µl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>References</b>                     | <ol style="list-style-type: none"> <li>1. Puri, N.K. <i>et al.</i> (1987) Monoclonal antibodies to sheep MHC class I and class II molecules: biochemical characterization of three class I gene products and four distinct subpopulations of class II molecules. <a href="#">Vet Immunol Immunopathol. 15 (1-2): 59-86.</a></li> <li>2. Puri, N.K. &amp; Brandon, M.R. (1987) Sheep MHC class II molecules. II. Identification and characterization of four distinct subsets of sheep MHC class II molecules. <a href="#">Immunology. 62 (4): 575-80.</a></li> <li>3. Puri, N.K. <i>et al.</i> (1987) Monoclonal antibodies to sheep MHC class II molecules recognize all HLA-D or subsets of HLA-D region products. <a href="#">Hum Immunol. 20 (3): 195-207.</a></li> <li>4. Ballingall, K.T. <i>et al.</i> (1995) Analysis of the fine specificities of sheep major histocompatibility complex class II-specific monoclonal antibodies using mouse L-cell transfectants. <a href="#">Anim Genet. 26 (2): 79-84.</a></li> <li>5. Kallapur, S.G. <i>et al.</i> (2011) Pulmonary and systemic inflammatory responses to intra-amniotic IL-1α in fetal sheep. <a href="#">Am J Physiol Lung Cell Mol Physiol. 301 (3): L285-95.</a></li> <li>6. Gorrell, M.D. <i>et al.</i> (1988) Lymphocyte phenotypes in the intestinal mucosa of sheep infected with <i>Trichostrongylus colubriformis</i>. <a href="#">Clin Exp Immunol. 72 (2): 274-9.</a></li> <li>7. Stenfeldt, C. <i>et al.</i> (2015) Clinical and virological dynamics of a serotype O 2010 South East Asia lineage foot-and-mouth disease virus in sheep using natural and simulated natural inoculation and exposure systems. <a href="#">Vet Microbiol. 178 (1-2): 50-60.</a></li> <li>8. Stenfeldt, C. <i>et al.</i> (2015) Pathogenesis of Primary Foot-and-Mouth Disease Virus Infection in the Nasopharynx of Vaccinated and Non-Vaccinated Cattle. <a href="#">PLoS One. 10 (11): e0143666.</a></li> <li>9. Stenfeldt, C. <i>et al.</i> (2016) The Foot-and-Mouth Disease Carrier State Divergence in</li> </ol> |

Cattle. [J Virol. 90 \(14\): 6344-64.](#)

10. Stenfeldt, C. *et al.* (2019) Virulence beneath the fleece; a tale of foot-and-mouth disease virus pathogenesis in sheep. [PLoS One. 14 \(12\): e0227061.](#)

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| <b>Storage</b>                       | <p>This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.</p> <p>Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.</p> |
| <b>Guarantee</b>                     | 12 months from date of despatch                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Health And Safety Information</b> | Material Safety Datasheet documentation #10041 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA2228F">https://www.bio-rad-antibodies.com/SDS/MCA2228F</a>                                                                                                                                                                                                                                                                                             |
| <b>Regulatory</b>                    | For research purposes only                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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## Related Products

### Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:FITC \(MCA929F\)](#)

**Product inquiries:** [www.bio-rad-antibodies.com/technical-support](http://www.bio-rad-antibodies.com/technical-support)

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](http://bio-rad-antibodies.com/datasheets)  
'M413390:221122'

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