

Datasheet: MCA2228F

BATCH NUMBER 172027

Description:	MOUSE ANTI SHEEP MHC CLASS II DQ DR POLYMORPHIC:FITC
Specificity:	MHC CLASS II DQ DR POLYMORPHIC
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	49.1
Isotype:	IgG2a
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	▪			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

Preservative 0.09% sodium azide (NaN₃)
Stabilisers 1% bovine serum albumin

Approx. Protein Concentrations IgG concentration 0.1 mg/ml

RRID AB_567329

Specificity **Mouse anti Sheep MHC class II DQ DR antibody, clone 49.1** 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.

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.

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 ([Ballingall *et al.* 1995](#)).

Flow Cytometry Use 10µl of the suggested working dilution to label 1 x 10⁶ cells in 100µl

- References**
1. Puri, N.K. *et al.* (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. [Vet Immunol Immunopathol. 15 \(1-2\): 59-86.](#)
 2. Puri, N.K. & Brandon, M.R. (1987) Sheep MHC class II molecules. II. Identification and characterization of four distinct subsets of sheep MHC class II molecules. [Immunology. 62 \(4\): 575-80.](#)
 3. Puri, N.K. *et al.* (1987) Monoclonal antibodies to sheep MHC class II molecules recognize all HLA-D or subsets of HLA-D region products. [Hum Immunol. 20 \(3\): 195-207.](#)
 4. Ballingall, K.T. *et al.* (1995) Analysis of the fine specificities of sheep major histocompatibility complex class II-specific monoclonal antibodies using mouse L-cell transfectants. [Anim Genet. 26 \(2\): 79-84.](#)
 5. Kallapur, S.G. *et al.* (2011) Pulmonary and systemic inflammatory responses to intra-amniotic IL-1α in fetal sheep. [Am J Physiol Lung Cell Mol Physiol. 301 \(3\): L285-95.](#)
 6. Gorrell, M.D. *et al.* (1988) Lymphocyte phenotypes in the intestinal mucosa of sheep infected with *Trichostrongylus colubriformis*. [Clin Exp Immunol. 72 \(2\): 274-9.](#)
 7. Stenfeldt, C. *et al.* (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. [Vet Microbiol. 178 \(1-2\): 50-60.](#)
 8. Stenfeldt, C. *et al.* (2015) Pathogenesis of Primary Foot-and-Mouth Disease Virus Infection in the Nasopharynx of Vaccinated and Non-Vaccinated Cattle. [PLoS One. 10 \(11\): e0143666.](#)
 9. Stenfeldt, C. *et al.* (2016) The Foot-and-Mouth Disease Carrier State Divergence in

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.](#)

Storage 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.

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.

Guarantee 12 months from date of despatch

Health And Safety Information Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2228F>

Regulatory For research purposes only

Related Products

Recommended Negative Controls

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

Product inquiries: 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
'M413390:221122'

Printed on 22 Oct 2025

© 2025 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)