Datasheet: MCA1568EL

Description:	MOUSE ANTI HUMAN CD14:Low Endotoxin
Specificity:	CD14
Format:	Low Endotoxin
Product Type:	Monoclonal Antibody
Clone:	TÜK4
Isotype:	IgG2a
Quantity:	0.5 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	▪			1/100 - 1/200
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA	▪			
Immunoprecipitation			▪	
Western Blotting	▪			
Functional Assays	▪			

Where this antibody 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 antibody for use in their own system using appropriate negative/positive controls.

Target Species	Human
Species Cross Reactivity	Reacts with: Dog, Goat, Cat, Rabbit, Mink, Bovine, Pig, Sheep, Cynomolgus monkey, Llama **N.B.** Antibody reactivity and working conditions may vary between species.
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	None present
Carrier Free	Yes
Endotoxin Level	<0.01 EU/ug
Approx. Protein	IgG concentration 1.0 mg/ml

Concentrations

External Database Links

UniProt:

P08571 Related reagents

Entrez Gene:

929 CD14 Related reagents

Specificity

Mouse anti human CD14 antibody, clone TÜK4 recognizes the human CD14 cell surface antigen. CD14 is a ~55 kDa glycoprotein that contains multiple leucine-rich repeats. It is anchored to the cell membrane via a glycosylphosphatidylinositol (GPI) linkage (Simmons *et al.* 1989), a soluble form of CD14 also exists (Bazil *et al.* 1986).

CD14 is strongly expressed on the surface of monocytes and macrophages but has also been shown to be expressed on the surface of non-myeloid cells (Jersmann 2005). CD14 functions as a pattern recognition receptor (Pugin *et al.* 1994, Dziarski *et al.* 1998) in innate immunity for a variety of ligands, in particular for the LPS (endotoxin) of Gram-negative bacteria.

Mouse anti human CD14 antibody, clone TÜK4 has been shown to block SDF-induced chemotaxis of U937 cells in a dose –dependent manner (Yang *et al.* 2003). Use of the anti-human CD14 antibody, Low Endotoxin format is recommended for this purpose.

Flow Cytometry

Use 10ul of the suggested working dilution to label 10^6 cells or 100ul whole blood.

References

1. Soell, M. *et al.* (1995) Activation of human monocytes by streptococcal rhamnose glucose polymers is mediated by CD14 antigen, and mannan binding protein inhibits TNF-alpha release. J Immunol. 154 (2): 851-60.
2. Gupta, V.K. *et al.* (1996) Identification of the sheep homologue of the monocyte cell surface molecule--CD14. Vet Immunol Immunopathol. 51 (1-2): 89-99.
3. Sopp, P. & Howard, C.J. (1997) Cross-reactivity of monoclonal antibodies to defined human leucocyte differentiation antigens with bovine cells. Vet Immunol Immunopathol. 56 (1-2): 11-25.
4. Willett, B.J. *et al.* (2003) Expression of CXCR4 on feline peripheral blood mononuclear cells: effect of feline immunodeficiency virus infection. J Virol. 77 (1): 709-12.
5. Werling, D. *et al.* (1998) Analysis of the phenotype and phagocytic activity of monocytes/macrophages from cattle infected with the bovine leukaemia virus. Vet Immunol Immunopathol. 62 (3): 185-95.
6. Yang, H. *et al.* (2003) Antibody to CD14 like CXCR4-specific antibody 12G5 could inhibit CXCR4-dependent chemotaxis and HIV Env-mediated cell fusion. Immunol Lett. 88 (1): 27-30.
7. Yoshino, N. *et al.* (2000) Upgrading of flow cytometric analysis for absolute counts, cytokines and other antigenic molecules of cynomolgus monkeys (*Macaca fascicularis*) by using anti-human cross-reactive antibodies. Exp Anim. 49 (2): 97-110.
8. Jacobsen, C.N. *et al.* (1993) Reactivities of 20 anti-human monoclonal antibodies with leucocytes from ten different animal species. Vet Immunol Immunopathol. 39 (4): 461-6.
9. Martel, C.J. & Aasted, B. (2009) Characterization of antibodies against ferret immunoglobulins, cytokines and CD markers. Vet Immunol Immunopathol. 132:109-15.
10. Dalli J *et al.* (2008) Annexin 1 mediates the rapid anti-inflammatory effects of neutrophil-derived microparticles. Blood. 112 (6): 2512-9.
11. Lybeck, K.R. *et al.* (2009) Neutralization of interleukin-10 from CD14(+) monocytes enhances gamma interferon production in peripheral blood mononuclear cells from *Mycobacterium avium* subsp. *paratuberculosis*-infected goats. Clin. Vaccine. Immunol. 16: 1003-11.
12. Ferret-Bernard, S. *et al.* (2010) Cellular and molecular mechanisms underlying the strong neonatal IL-12 response of lamb mesenteric lymph node cells to R-848. PLoS One. 5: e13705.

13. Fulton, B.E. Jr. *et al.* (2006) Dissemination of bovine leukemia virus-infected cells from a newly infected sheep lymph node. J Virol. 80: 7873-84.
14. Willett, B.J. *et al.* (2007) Probing the interaction between feline immunodeficiency virus and CD134 by using the novel monoclonal antibody 7D6 and the CD134 (Ox40) ligand. J Virol. 81: 9665-79.
15. 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.
16. Lund Hege *et al.* (2016) Transient Migration of Large Numbers of CD14++ CD16+ Monocytes to the Draining Lymph Node after Onset of Inflammation Frontiers in Immunology. 7: 322.
17. Krueger LA *et al.* (2016) Gamma delta T cells are early responders to *Mycobacterium avium* ssp. *paratuberculosis* in colostrum-replete Holstein calves. J Dairy Sci. Sep 7. pii: S0022-0302(16)30611-7. [Epub ahead of print]
18. Gelain, M.E. *et al.* (2014) CD44 in canine leukemia: analysis of mRNA and protein expression in peripheral blood. Vet Immunol Immunopathol. 159 (1-2): 91-6.
19. Schaut, R.G. *et al.* (2015) Bovine viral diarrhea virus type 2 *in vivo* infection modulates TLR4 responsiveness in differentiated myeloid cells which is associated with decreased MyD88 expression. Virus Res. 208: 44-55.
20. Westover, A.J. *et al.* (2016) An Immunomodulatory Device Improves Insulin Resistance in Obese Porcine Model of Metabolic Syndrome. J Diabetes Res. 2016: 3486727.
21. Pomeroy, B. *et al.* (2017) Counts of bovine monocyte subsets prior to calving are predictive for postpartum occurrence of mastitis and metritis. Vet Res. 48 (1): 13.
22. Gibson, A.J. *et al.* (2016) Differential macrophage function in Brown Swiss and Holstein Friesian cattle. Vet Immunol Immunopathol. 181: 15-23.
23. Martini, V. *et al.* (2017) Flow cytometry for feline lymphoma: a retrospective study regarding pre-analytical factors possibly affecting the quality of samples. J Feline Med Surg. : 1098612X17717175.
24. Novacco, M. *et al.* (2016) Prognostic factors in canine acute leukaemias: a retrospective study. Vet Comp Oncol. 14 (4): 409-16.
25. Feng, P.H. *et al.* (2018) S100A9^{+} MDSC and TAM-mediated EGFR-TKI resistance in lung adenocarcinoma: the role of *RELB*. Oncotarget. 9 (7): 7631-43.

Further Reading

1. Simmons, D. L. *et al.* (1989) Monocyte antigen CD14 is a phospholipid anchored membrane protein. Blood. 73:284-9.
2. Bazil, V. *et al.* (1986) Biochemical characterization of a soluble form of the 53-kDa monocyte surface antigen. Eur J Immunol. 16:1583-9.
3. Jersmann, H.P. (2005) Time to abandon dogma: CD14 is expressed by non-myeloid lineage cells. Immunol Cell Biol. 83:462-7.
4. Pugin, J. *et al.* (1994) CD14 is a pattern recognition receptor. Immunity.1:509-16.
5. Dziarski, R. *et al.* (1998) Binding of bacterial peptidoglycan to CD14. J Biol Chem. 273:8680-90.
6. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39: 54.

Storage

Store at -20^{o}C only.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life

18 months from date of despatch.

Health And Safety Information	Material Safety Datasheet documentation #10162 available at: 10162: https://www.bio-rad-antibodies.com/uploads/MSDS/10162.pdf
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos., HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Rabbit Anti Mouse IgG (STAR8...)	DyLight®800
Goat Anti Mouse IgG (STAR70...)	FITC
Human Anti Mouse IgG2a (HCA037...)	FITC, HRP
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®549, DyLight®649, DyLight®680, DyLight®800, FITC, HRP

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL:Low Endotoxin (MCA929EL)

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

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