

## Datasheet: MCA1568P750

**BATCH NUMBER 168482**

<b>Description:</b>	MOUSE ANTI HUMAN CD14:RPE-Alexa Fluor® 750
<b>Specificity:</b>	CD14
<b>Format:</b>	RPE-ALEXA FLUOR® 750
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	TÜK4
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	100 TESTS/1ml

### 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	▪			Neat - 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.

<b>Target Species</b>	Human
<b>Species Cross Reactivity</b>	<p>Reacts with: Dog, Goat, Cat, Rabbit, Mink, Bovine, Pig, Sheep, Cynomolgus monkey, Llama</p> <p><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.</p>

**Product Form** Purified IgG conjugated to R. Phycoerythrin (RPE) - Alexa Fluor® 750 - lyophilized

**Reconstitution** Reconstitute with 1.0 ml distilled water

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE-Alexa Fluor®750 488nm laser	496	779
	RPE-Alexa Fluor®750 561nm laser	546	779

<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative</b>	0.09% sodium azide (NaN <sub>3</sub> )
<b>Stabilisers</b>	1% bovine serum albumin 5% sucrose
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P08571</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">929</a> CD14    <a href="#">Related reagents</a></p>
<b>RRID</b>	AB_566520
<b>Specificity</b>	<p><b>Mouse anti Human CD14 antibody, clone TÜK4</b> 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 (<a href="#">Simmons et al. 1989</a>), a soluble form of CD14 also exists (<a href="#">Bazil et al. 1986</a>).</p> <p>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 (<a href="#">Jersmann 2005</a>). CD14 functions as a pattern recognition receptor (<a href="#">Pugin et al. 1994</a>, <a href="#">Dziarski et al. 1998</a>) in innate immunity for a variety of ligands, in particular for the LPS (endotoxin) of Gram-negative bacteria.</p> <p>Mouse anti human CD14 antibody, clone TÜK4 has been shown to block SDF-induced chemotaxis of U937 cells in a dose –dependent manner (<a href="#">Yang et al. 2003</a>). Use of the <a href="#">anti-human CD14 antibody, Low Endotoxin format</a> is recommended for this purpose.</p>
<b>Flow Cytometry</b>	Use 5µl of the suggested working dilution to label 10 <sup>6</sup> cells or 100µl whole blood.
<b>References</b>	<ol style="list-style-type: none"> <li>Jacobsen, C.N. <i>et al.</i> (1993) Reactivities of 20 anti-human monoclonal antibodies with leucocytes from ten different animal species. <a href="#">Vet Immunol Immunopathol. 39 (4): 461-6.</a></li> <li>Gupta, V.K. <i>et al.</i> (1996) Identification of the sheep homologue of the monocyte cell surface molecule--CD14. <a href="#">Vet Immunol Immunopathol. 51 (1-2): 89-99.</a></li> <li>Sopp, P. &amp; Howard, C.J. (1997) Cross-reactivity of monoclonal antibodies to defined human leucocyte differentiation antigens with bovine cells. <a href="#">Vet Immunol Immunopathol. 56 (1-2): 11-25.</a></li> <li>Werling, D. <i>et al.</i> (1998) Analysis of the phenotype and phagocytic activity of monocytes/macrophages from cattle infected with the bovine leukaemia virus. <a href="#">Vet Immunol Immunopathol. 62 (3): 185-95.</a></li> <li>Weiss, D.J. (2001) Evaluation of proliferative disorders in canine bone marrow by use of flow cytometric scatter plots and monoclonal antibodies. <a href="#">Vet Pathol. 38: 512-8.</a></li> <li>Bryan, S.A. <i>et al.</i> (2002) Responses of leukocytes to chemokines in whole blood and</li> </ol>

- their antagonism by novel CC-chemokine receptor 3 antagonists. [Am J Respir Crit Care Med. 165: 1602-9.](#)
7. 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.](#)
  8. Schenk, M. *et al.* (2005) Macrophages expressing triggering receptor expressed on myeloid cells-1 are underrepresented in the human intestine. [J Immunol. 174 \(1\): 517-24.](#)
  9. 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.](#)
  10. 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.](#)
  11. Dewals, B.G. & Vanderplasschen, A. (2011) Malignant catarrhal fever induced by Alcelaphine herpesvirus 1 is characterized by an expansion of activated CD3+CD8+CD4-T cells expressing a cytotoxic phenotype in both lymphoid and non-lymphoid tissues. [Vet Res. 42 \(1\): 95.](#)
  12. Dalli J *et al.* (2008) Annexin 1 mediates the rapid anti-inflammatory effects of neutrophil-derived microparticles. [Blood. 112 \(6\): 2512-9.](#)
  13. Martel, C.J. & Aasted, B. (2009) Characterization of antibodies against ferret immunoglobulins, cytokines and CD markers. [Vet Immunol Immunopathol. 132:109-15.](#)
  14. 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 \(7\): 1003-11.](#)
  15. 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.](#)
  16. Xiong, W. *et al.* (2010) Human Flt3L generates dendritic cells from canine peripheral blood precursors: implications for a dog glioma clinical trial. [PLoS One. 5: e11074.](#)
  17. Kallapur, S.G. *et al.* (2011) Pulmonary and systemic inflammatory responses to intra-amniotic IL-1 $\alpha$  in fetal sheep. [Am J Physiol Lung Cell Mol Physiol. 301 \(3\): L285-95.](#)
  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. Novacco, M. *et al.* (2016) Prognostic factors in canine acute leukaemias: a retrospective study. [Vet Comp Oncol. 14 \(4\): 409-16.](#)
  21. Gibson, A.J. *et al.* (2016) Differential macrophage function in Brown Swiss and Holstein Friesian cattle. [Vet Immunol Immunopathol. 181: 15-23.](#)
  22. Krueger, L.A. *et al.* (2016) Gamma delta T cells are early responders to *Mycobacterium avium* ssp. *paratuberculosis* in colostrum-replete Holstein calves. [J Dairy Sci. 99 \(11\): 9040-50.](#)
  23. Lund, H. *et al.* (2016) Transient Migration of Large Numbers of CD14(++) CD16(+) Monocytes to the Draining Lymph Node after Onset of Inflammation. [Front Immunol. 7: 322.](#)
  24. Westover, A.J. *et al.* (2016) An Immunomodulatory Device Improves Insulin

- Resistance in Obese Porcine Model of Metabolic Syndrome. [J Diabetes Res. 2016: 3486727.](#)
25. 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.](#)
26. Martini, V. *et al.* (2018) Flow cytometry for feline lymphoma: a retrospective study regarding pre-analytical factors possibly affecting the quality of samples. [J Feline Med Surg. 20 \(6\): 494-501.](#)
27. Feng, P.H. *et al.* (2018) S100A9<sup>+</sup> MDSC and TAM-mediated EGFR-TKI resistance in lung adenocarcinoma: the role of *RELB*. [Oncotarget. 9 \(7\): 7631-43.](#)
28. Higgins, J.L. *et al.* (2018) Cell mediated immune response in goats after experimental challenge with the virulent *Brucella melitensis* strain 16M and the reduced virulence strain Rev. 1. [Vet Immunol Immunopathol. 202: 74-84.](#)
29. Lessard, M. *et al.* (2018) Piglet weight gain during the first two weeks of lactation influences the immune system development. [Vet Immunol Immunopathol. 206: 25-34.](#)
30. Moncada-Saucedo, N.K. *et al.* (2019) A Bioactive Cartilage Graft of IGF1-Transduced Adipose Mesenchymal Stem Cells Embedded in an Alginate/Bovine Cartilage Matrix Tridimensional Scaffold. [Stem Cells Int. 2019: 9792369.](#)
31. Kolar, Q.K. *et al.* (2020) Anatomical distribution of respiratory tract leukocyte cell subsets in neonatal calves. [Vet Immunol Immunopathol. 227: 110090.](#)
32. Rivalde, M.A. *et al.* (2020) BVDV permissiveness and lack of expression of co-stimulatory molecules on PBMCs from calves pre-infected with BVDV. [Comp Immunol Microbiol Infect Dis. 68: 101388.](#)
33. Muñoz-Silvestre, A. *et al.* (2020) Pathogenesis of Intradermal Staphylococcal Infections: Rabbit Experimental Approach to Natural *Staphylococcus aureus* Skin Infections. [Am J Pathol. 190 \(6\): 1188-210.](#)
34. Sipka, A.S. *et al.* (2020) The effect of *ex vivo*. lipopolysaccharide stimulation and nutrient availability on transition cow innate immune cell AKT/mTOR pathway responsiveness. [J Dairy Sci. 103 \(2\): 1956-1968.](#)
35. Mas, A. *et al.* (2020) A further investigation of the leishmaniosis outbreak in Madrid (Spain): low-infectivity phenotype of the *Leishmania infantum* BOS1FL1 isolate to establish infection in canine cells. [Vet Immunol Immunopathol. 230: 110148.](#)
36. Schwarz, E.R. *et al.* (2020) Experimental Infection of Mid-Gestation Pregnant Female and Intact Male Sheep with Zika Virus. [Viruses. 12 \(3\): 291.](#)
37. Penadés, M. *et al.* (2020) Early deviations in performance, metabolic and immunological indicators affect stayability in rabbit females. [Animal. 14 \(4\): 780-9.](#)
38. Tuohy, J.L. *et al.* (2020) Immune dysregulation and osteosarcoma: *Staphylococcus aureus*. downregulates TGF- $\beta$  and heightens the inflammatory signature in human and canine macrophages suppressed by osteosarcoma. [Vet Comp Oncol. 18 \(1\): 64-75.](#)
39. Park, D.S. *et al.* (2021) Dynamic changes in blood immune cell composition and function in Holstein and Jersey steers in response to heat stress. [Cell Stress Chaperones. 26 \(4\): 705-20.](#)
40. Grudzien, M. *et al.* (2021) A newly established canine NK-type cell line and its cytotoxic properties. [Vet Comp Oncol. 19 \(3\): 567-77.](#)
41. Jaensch, S.M. *et al.* (2022) Clinicopathologic and immunophenotypic features in dogs with presumptive large granular lymphocyte leukaemia. [Aust Vet J. 100 \(11\): 527-32.](#)
42. Riccardo, F. *et al.* (2022) Antigen mimicry as an effective strategy to induce CSPG4-targeted immunity in dogs with oral melanoma: a veterinary trial. [J Immunother Cancer.](#)

[10\(5\):e004007.](#)

43. Shiue, S.J. *et al.* (2022) Arthrospira Enhances Seroclearance in Patients with Chronic Hepatitis B Receiving Nucleos(t)ide Analogue through Modulation of TNF- $\alpha$ /IFN- $\gamma$  Profile. [Nutrients. 14 \(14\): 2790.](#)
44. Wee, J.H. *et al.* (2022) Stem cell laden nano and micro collagen/PLGA bimodal fibrous patches for myocardial regeneration. [Biomater Res. 26 \(1\): 79.](#)
45. Arnaud-Franco, Á. *et al.* (2022) Effect of Adipose-Derived Mesenchymal Stem Cells (ADMSCs) Application in Achilles-Tendon Injury in an Animal Model. [Curr Issues Mol Biol. 44 \(12\): 5827-38.](#)
46. Ashwood, P. (2022) Preliminary Evidence of Differentially Induced Immune Responses by Microparticle-adsorbed LPS in Patients with Crohn's Disease. [J Cell Immunol. 4 \(6\): 211-218.](#)
47. Rotolo, A. *et al.* (2023) Unedited allogeneic iNKT cells show extended persistence in MHC-mismatched canine recipients. [Cell Rep Med. 4 \(10\): 101241.](#)
48. Rütgen, B.C. *et al.* (2022) Composition of lymphocyte subpopulations in normal and mildly reactive peripheral lymph nodes in cats. [J Feline Med Surg. 24 \(2\): 77-90.](#)
49. Ducournau, C. *et al.* (2020) Effective Nanoparticle-Based Nasal Vaccine Against Latent and Congenital Toxoplasmosis in Sheep [Front Immunol. 11:2183.](#)
50. Sheng, R. *et al.* (2023) Prognostic significance of CD25 expression in dogs with a noninvasive diagnosis of B-cell lymphoma treated with CHOP chemotherapy. [Vet Comp Oncol. 21 \(1\): 28-35.](#)
51. Miguelena Chamorro, B. *et al.* (2023) Characterization of Canine Peyer's Patches by Multidimensional Analysis: Insights from Immunofluorescence, Flow Cytometry, and Single-Cell RNA Sequencing. [Immunohorizons. 7 \(11\): 788-805.](#)
52. Mason, N.J. *et al.* (2021) Development of a fully canine anti-canine CTLA4 monoclonal antibody for comparative translational research in dogs with spontaneous tumors. [MAbs. 13 \(1\): 2004638.](#)

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#### Further Reading

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

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#### Storage

Store at +4°C.  
DO NOT FREEZE.  
This product should be stored undiluted. This product is photosensitive and should be protected from light. 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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**Regulatory** For research purposes only

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