

## Datasheet: MCA2413PE

**BATCH NUMBER 171005**

<b>Description:</b>	MOUSE ANTI CHICKEN CD45:RPE
<b>Specificity:</b>	CD45
<b>Other names:</b>	LEUCOCYTE COMMON ANTIGEN
<b>Format:</b>	RPE
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	UM16-6
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	100 TESTS

### 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 - 1/5

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.

<b>Target Species</b>	Chicken		
<b>Species Cross Reactivity</b>	Does not react with: Turkey		
<b>Product Form</b>	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized		
<b>Reconstitution</b>	Reconstitute with 1.0 ml distilled water		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	RPE 488nm laser	496	578
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
<b>Buffer Solution</b>	Phosphate buffered saline		

<b>Preservative Stabilisers</b>	0.09% Sodium Azide 1% Bovine Serum Albumin
<b>Immunogen</b>	COS cells transfected with CD45 gene.
<b>RRID</b>	AB_808433
<b>Specificity</b>	<p><b>Mouse anti Chicken CD45 antibody, clone UM16-6</b> recognizes chicken CD45, also known as leucocyte common antigen. CD45 is a heavily-glycosylated transmembrane protein tyrosine phosphatase (PTPase) expressed by all nucleated cells of haematopoietic origin. Variation in the expression of a particular CD45 isoform, is regulated during the haematopoietic development of the different cell lineages.</p> <p>CD45 is essential for antigen-induced signal transduction through the antigen receptor and as with other PTPase family members, acts in balance with protein tyrosine kinases, causing the dephosphorylation of negative regulatory tyrosine sites. De-phosphorylation by CD45, is required for the activation of the src-family kinases p56<sup>lck</sup> and p59<sup>lyn</sup>.</p> <p>Chicken CD45 has an additional cysteine residue near the transmembrane region compared to human and shark CD45 (<a href="#">Okumura et al. 1996</a>). The overall domain structure between mammalian and chicken CD45 appears to be conserved, but the sequence homology between the extracellular regions is very low.</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul.
<b>References</b>	<ol style="list-style-type: none"> <li>Reddy SK <i>et al.</i> (2008) The BAFF-Interacting receptors of chickens. <a href="#">Dev Comp Immunol. 32 (9): 1076-87.</a></li> <li>Pavlova, S. <i>et al.</i> (2010) <i>In vitro</i> and <i>in vivo</i> characterization of glycoprotein C-deleted infectious laryngotracheitis virus. <a href="#">J Gen Virol. 91:847-57.</a></li> <li>Harvanová, D. <i>et al.</i> (2014) Isolation, cultivation and characterisation of pigeon osteoblasts seeded on xenogeneic demineralised cancellous bone scaffold for bone grafting. <a href="#">Vet Res Commun. 38 (3): 221-8.</a></li> <li>Ulrich-Lynge SL <i>et al.</i> (2015) The consequence of low mannose-binding lectin plasma concentration in relation to susceptibility to <i>Salmonella infantis</i> in chickens. <a href="#">Vet Immunol Immunopathol. 163 (1-2): 23-32.</a></li> <li>Watrang, E. <i>et al.</i> (2015) CD107a as a marker of activation in chicken cytotoxic T cells. <a href="#">J Immunol Methods. 419: 35-47.</a></li> <li>Czerwiński, J. <i>et al.</i> (2015) The use of genetically modified Roundup Ready soyabean meal and genetically modified MON 810 maize in broiler chicken diets. Part 1. Effects on performance and blood lymphocyte subpopulations <a href="#">J Anim Feed Sci 24: 134-43.</a></li> <li>Eren, U. <i>et al.</i> (2016) The several elements of intestinal innate immune system at the beginning of the life of broiler chicks. <a href="#">Microsc Res Tech. 79 (7): 604-14.</a></li> <li>Röhe, I. <i>et al.</i> (2017) Effect of feeding soybean meal and differently processed peas on the gut mucosal immune system of broilers <a href="#">Poultry Science. Feb 23 [Epub ahead of print]</a></li> <li>Kjærup, R.B. <i>et al.</i> (2017) Comparison of growth performance and immune parameters of three commercial chicken lines used in organic production. <a href="#">Vet Immunol Immunopathol. 187: 69-79.</a></li> </ol>

10. Fenzl, L. *et al.* (2017)  $\gamma\delta$  T cells represent a major spontaneously cytotoxic cell population in the chicken. [Dev Comp Immunol. 73: 175-83.](#)
11. Larsen, F.T. *et al.* (2019) Immunoprofiling of peripheral blood from infectious bronchitis virus vaccinated MHC-B chicken lines - Monocyte MHC-II expression as a potential correlate of protection. [Dev Comp Immunol. 96: 93-102.](#)
12. Naghizadeh, M. *et al.* (2019) Rapid whole blood assay using flow cytometry for measuring phagocytic activity of chicken leukocytes. [Vet Immunol Immunopathol. 207: 53-61.](#)
13. Wattrang, E. *et al.* (2020) Immune responses upon experimental *Erysipelothrix rhusiopathiae* infection of naïve and vaccinated chickens. [Vet Res. 51 \(1\): 114.](#)
14. Alber, A. *et al.* (2019) Avian Pathogenic Escherichia coli (APEC) Strain-Dependent Immunomodulation of Respiratory Granulocytes and Mononuclear Phagocytes in CSF1R-Reporter Transgenic Chickens. [Front Immunol. 10: 3055.](#)

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**Further Reading**

1. Okumura, M. *et al.* (1996) Comparison of CD45 extracellular domain sequences from divergent vertebrate species suggests the conservation of three fibronectin type III domains. [J Immunol. 157 \(4\): 1569-75.](#)
2. Jung, E.J. *et al.* (1997) Phosphorylation of chicken protein tyrosine phosphatase 1 by casein kinase II *in vitro*. [Experimental and Molecular Medicine 29\(4\): 229-33.](#)
3. Symons, A. *et al.* (1999) Domain organization of the extracellular region of CD45. [Protein Eng. 12 \(10\): 885-92.](#)

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**Storage**

Prior to reconstitution store at +4°C.  
 After reconstitution store at +4°C.  
 DO NOT FREEZE. 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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**Health And Safety Information**

Material Safety Datasheet documentation #20487 available at:  
<https://www.bio-rad-antibodies.com/SDS/MCA2413PE>

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**Regulatory**

For research purposes only

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**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)  
 'M426384:231221'

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