

## Datasheet: MCA2092

<b>Description:</b>	MOUSE ANTI RAT CD152
<b>Specificity:</b>	CD152
<b>Other names:</b>	CLTA-4, CTLA-4
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	WKH203
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.25 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)	▪			1/10 - 1/20
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA	▪			
Immunoprecipitation			▪	
Western Blotting	▪			

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.

**(1) Membrane permeabilization is required for this application. The use of Leucoperm (Product Code [BUF09](#)) is recommended for this purpose.**

<b>Target Species</b>	Rat
<b>Product Form</b>	Purified IgG - liquid
<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</b>	0.09% sodium azide (NaN <sub>3</sub> )

## Stabilisers

Carrier Free Yes

Approx. Protein Concentrations IgG concentration 1.0 mg/ml

Immunogen Purified rCTLA-4hlg fusion protein.

RRID AB\_2087798

Fusion Partners Spleen cells from immunized Balb/c were fused with cells of the X63-Ag8-653 myeloma cell line.

Specificity **Mouse anti Rat CD152 antibody, clone WKH203** recognizes rat CD152, also known as cytotoxic-T-lymphocyte antigen-4 (CTLA-4), which is similar in structure to CD28 and also binds ligands CD80 and CD86. CD152 is expressed by activated T-lymphocytes and by regulatory T-lymphocytes ([Lin and Hunig 2003](#)).

Flow Cytometry Use 10µl of the suggested working dilution to label 10<sup>6</sup> cells in 100µl

## References

1. Elflein, K. *et al.* (2003) Rapid recovery from T lymphopenia by CD28 superagonist therapy. [Blood. 102 \(5\): 1764-70.](#)
2. Beyersdorf, N. *et al.* (2005) Selective targeting of regulatory T cells with CD28 superagonists allows effective therapy of experimental autoimmune encephalomyelitis. [J Exp Med. 202 \(3\): 445-55.](#)
3. Hara, Y. *et al.* (2006) Anergic lymphocytes generated by blocking CD28 and ICOS pathways in vitro prolong rat cardiac graft survival. [Int Immunopharmacol. 6 \(7\): 1143-51.](#)
4. Blewett, H.J. *et al.* (2009) Vaccenic acid favourably alters immune function in obese JCR:LA-cp rats. [Br J Nutr. 102 \(4\): 526-36.](#)
5. Almolda, B. *et al.* (2010) Activated microglial cells acquire an immature dendritic cell phenotype and may terminate the immune response in an acute model of EAE. [J Neuroimmunol. 223 \(1-2\): 39-54.](#)

## 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.

Guarantee 12 months from date of despatch

Health And Safety Information Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2092>  
10040

Regulatory For research purposes only

## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (H/L) (STAR117...)	<a href="#">Alk. Phos.</a> , <a href="#">DyLight@488</a> , <a href="#">DyLight@550</a> , <a href="#">DyLight@650</a> , <a href="#">DyLight@680</a> , <a href="#">DyLight@800</a> , <a href="#">FITC</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR9...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA1209\)](#)

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