

## Datasheet: MCA1724

<b>Description:</b>	MOUSE ANTI HUMAN CD152
<b>Specificity:</b>	CD152
<b>Other names:</b>	CTLA-4
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	BNI3
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	0.2 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)	▪			Neat - 1/10
Immunohistology - Frozen (2)	▪			5ug/ml - 50ug/ml
Immunohistology - Paraffin		▪		
ELISA	▪			
Immunoprecipitation	▪			
Western Blotting			▪	
Immunofluorescence	▪			

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.

**(1)Membrane permeabilization is required for this application. Bio-Rad recommend the use of Leucoperm™ (Product Code [BUF09](#)) for this purpose.**

**(2)The epitope recognised by this antibody is reported to be sensitive to formaldehyde fixation and tissue processing. Bio-Rad recommends the use of acetone fixation for frozen sections.**

<b>Target Species</b>	Human
<b>Product Form</b>	Purified IgG - liquid

<b>Preparation</b>	Purified by affinity chromatography on Protein A from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	<0.1% Sodium Azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Human CTLA-4/human IgG heavy chain fusion protein.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P16410</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">1493</a>    CTLA4    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	CD152
<b>RRID</b>	AB_2276878
<b>Fusion Partners</b>	Spleen cells from immunised BALB/c mice were fused with cells of the mouse P3/X63-Ag8.653 myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Human CD152 antibody, clone BNI3</b> recognizes human CD152, also known as CTLA-4 (cytotoxic T-lymphocyte-associated antigen 4), an inhibitory receptor and negative regulator of T-cell responses. CD152 is a single pass type 1 transmembrane protein belonging to the immunoglobulin superfamily containing a single <a href="#">Ig-v-like</a> domain in the extracellular region.</p> <p>CD152 along with CD28 binds to the co-stimulatory molecules CD80 and CD86 (<a href="#">Azuma et al. 1993</a>).</p> <p>Mouse anti human CD152 antibody, clone BNI3 is able to block ligand binding on the Raji B-cell line (<a href="#">Steiner et al. 2001</a>) and blocks binding of an alternative clone, BNI8 to CTLA-4/Ig in ELISA. Mouse anti Human CD152 antibody, clone BNI3 binds to the same epitope as classified anti CTLA-4 clones 11D4 and 10A8 (Wang et al. In: Leukocyte typing VI 1997 Garland Publishing Inc. pp97-98, <a href="#">Bull World Health Organ. 1997</a>).</p> <p>The cytoplasmic domain of CD152 contains a critical tyrosine at residue 201 phosphorylated by Janus Kinase 2 which subsequently controls surface expression through regulation of CD152 interaction with AP-2 (<a href="#">Shiratori et al. 1997</a>, <a href="#">Chikuma et al. 2000</a>). CD152 is expressed primarily as an intracellular antigen with transport to the cell surface under tight regulation of several molecules including Trim, PLD and TIRC7, CD152 also demonstrates rapid internalization once expressed at the cell surface (<a href="#">Valk et al. 2008</a>). CD152 plays a significant role in maintaining tolerance to self antigens and defects in CD152 presentation and expression has been implicated in a number of</p>

autoimmune diseases ([Romo-Tena et al. 2013](#)).

This antibody can be used to develop a pharmacokinetic (PK) bridging assay to measure free fusion protein drug abatacept. It is recommended as the capture reagent, paired with human anti abatacept antibody [HCA335](#) as the detection antibody.

Abatacept (Orencia) is a recombinant fusion protein consisting of the extra-cellular domain of human CTLA-4, fused to the modified Fc (hinge, CH2, and CH3 domains) portion of human IgG1.

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**Flow Cytometry**

Use 10ul of the suggested working dilution to label  $1 \times 10^6$  cells in 100ul.

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**ELISA**

Clone BNI3 can be used as the capture antibody in a bridging ELISA with [HCA335](#) as the detection antibody.

Protocol: [PK bridging ELISA](#)

Protocol: [ADA bridging ELISA](#)

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**References**

1. Linsley, P.S. *et al.* (1992) Coexpression and functional cooperation of CTLA-4 and CD28 on activated T lymphocytes. [J Exp Med. 176 \(6\): 1595-604.](#)
2. Kuiper, H.M. *et al.* (1995) Activated T cells can induce high levels of CTLA-4 expression on B cells. [J Immunol. 155 \(4\): 1776-83.](#)
3. Castan, J. *et al.* (1997) Accumulation of CTLA-4 expressing T lymphocytes in the germinal centres of human lymphoid tissues. [Immunology. 90 \(2\): 265-71.](#)
4. Lee, C.C. *et al.* (2009) The regulatory function of umbilical cord blood CD4(+) CD25(+) T cells stimulated with anti-CD3/anti-CD28 and exogenous interleukin (IL)-2 or IL-15. [Pediatr Allergy Immunol. 20 \(7\): 624-32.](#)
5. Pistillo, M.P. *et al.* (2003) CTLA-4 is not restricted to the lymphoid cell lineage and can function as a target molecule for apoptosis induction of leukemic cells. [Blood. 101: 202-9.](#)
6. Tan, P.H. *et al.* (2005) Creation of tolerogenic human dendritic cells via intracellular CTLA4: a novel strategy with potential in clinical immunosuppression. [Blood. 106: 2936-43.](#)
7. Steiner, K. *et al.* (2001) Increased expression of CTLA-4 (CD152) by T and B lymphocytes in Wegener's granulomatosis. [Clin Exp Immunol. 126: 143-50.](#)
8. Lu, C.H. *et al.* (2016) DNA Methyltransferase Inhibitor Promotes Human CD4<sup>+</sup>CD25<sup>h</sup>FOXP3<sup>+</sup> Regulatory T Lymphocyte Induction under Suboptimal TCR Stimulation. [Front Immunol. 7: 488.](#)
9. Steiner, K. *et al.* (1999) Enhanced expression of CTLA-4 (CD152) on CD4<sup>+</sup> T cells in HIV infection. [Clin Exp Immunol. 115 \(3\): 451-7.](#)
10. Ward, F.J. *et al.* (2013) The soluble isoform of CTLA-4 as a regulator of T-cell responses. [Eur J Immunol. 43 \(5\): 1274-85.](#)

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**Further Reading**

1. Chin, L.T. *et al.* (2008) Immune intervention with monoclonal antibodies targeting CD152 (CTLA-4) for autoimmune and malignant diseases. [Chang Gung Med J. 31: 1-15.](#)

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**Storage**

Store at +4°C. DO NOT FREEZE.

This product should be stored undiluted. Should this product contain a precipitate we

recommend microcentrifugation before use.

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<b>Guarantee</b>	12 months from date of despatch
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<b>Acknowledgements</b>	Orencia is a trademark of Bristol-Myers Squibb Company
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: 10040: <a href="https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf">https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf</a>
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Rabbit Anti Mouse IgG (STAR8...)	<a href="#">DyLight@800</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Human Anti Mouse IgG2a (HCA037...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Rabbit Anti Mouse IgG (STAR9...)	<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>

### Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL \(MCA929\)](#)

### Recommended Useful Reagents

[HUMAN ANTI ABATACEPT \(HCA335\)](#)

[HUMAN ANTI ABATACEPT \(HCA336\)](#)

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