

## Datasheet: MCA1560XZ

<b>Description:</b>	RAT ANTI HUMAN TNF ALPHA:Preservative Free
<b>Specificity:</b>	TNF ALPHA
<b>Format:</b>	Preservative Free
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	MP9-20A4
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	1 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)	▪			
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA	▪			5ug/ml - 10ug/ml
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.

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

<b>Target Species</b>	Human
<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 Stabilisers</b>	None present

<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P01375</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">7124</a>    TNF    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	TNFA, TNFSF2
<b>RRID</b>	AB_567240
<b>Specificity</b>	<p><b>Rat anti Human TNF alpha antibody, clone MP9-20A4</b> recognizes human tumor Necrosis Factor - alpha (TNF alpha), also known as TNFSF2. This ~17kDa cytokine is expressed by activated macrophages, monocytes, neutrophils, T cells and NK cells.</p> <p>Rat anti Human TNF alpha antibody, clone MP9-20A4 is reported to act as a blocking antibody (<a href="#">Abrams et al. 2001</a>).</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>Butler, D.M. <i>et al.</i> (1997) DBA/1 mice expressing the human TNF-alpha transgene develop a severe, erosive arthritis: characterization of the cytokine cascade and cellular composition. <a href="#">J Immunol. 159 (6): 2867-76.</a></li> <li>Vujanovic, L. <i>et al.</i> (2010) Virally infected and matured human dendritic cells activate natural killer cells via cooperative activity of plasma membrane-bound TNF and IL-15. <a href="#">Blood. 116: 575-83.</a></li> <li>Abrams, J.S. (2001) Immunoenzymetric assay of mouse and human cytokines using NIP-labeled anti-cytokine antibodies. <a href="#">Curr Protoc Immunol. Chapter 6: Unit 6.20.</a></li> <li>Evans HG <i>et al.</i> (2009) <i>In vivo</i> activated monocytes from the site of inflammation in humans specifically promote Th17 responses. <a href="#">Proc Natl Acad Sci U S A. 106 (15): 6232-7.</a></li> <li>Kobawala TP <i>et al.</i> (2016) Significance of TNF-<math>\alpha</math> and the Adhesion Molecules: L-Selectin and VCAM-1 in Papillary Thyroid Carcinoma. <a href="#">J Thyroid Res. 2016: 8143695.</a></li> <li>Mann, E.R. <i>et al.</i> (2016) Compartment-specific immunity in the human gut: properties and functions of dendritic cells in the colon versus the ileum. <a href="#">Gut. 65 (2): 256-70.</a></li> <li>Kumagai, M. <i>et al.</i> (2012) Effective transgene expression without toxicity by intraperitoneal administration of PEG-detachable polyplex micelles in mice with peritoneal dissemination. <a href="#">J Control Release. 160 (3): 542-51.</a></li> <li>Poussin C <i>et al.</i> (2014) Mechanism of an indirect effect of aqueous cigarette smoke extract on the adhesion of monocytic cells to endothelial cells in an <i>in vitro</i> assay revealed by transcriptomics analysis. <a href="#">Toxicol In Vitro. 28 (5): 896-908.</a></li> </ol>
<b>Further Reading</b>	1. Kadowaki, N. <i>et al.</i> (2000) Natural interferon alpha/beta-producing cells link innate and

adaptive immunity. [J Exp Med. 192 \(2\): 219-26.](#)

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<b>Storage</b>	Store at -20°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 protein. Should this product contain a precipitate we recommend microcentrifugation before use.
<b>Guarantee</b>	12 months from date of despatch
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10162 available at: 10162: <a href="https://www.bio-rad-antibodies.com/uploads/MSDS/10162.pdf">https://www.bio-rad-antibodies.com/uploads/MSDS/10162.pdf</a>
<b>Regulatory</b>	For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR17...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR131...)	<a href="#">Alk. Phos.</a> , <a href="#">Biotin</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Rabbit Anti Rat IgG (STAR21...)	<a href="#">HRP</a>
Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight@800</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight@800</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>

### Recommended Negative Controls

[RAT IgG1 NEGATIVE CONTROL \(MCA6004GA\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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