

## Datasheet: PHP051A

**BATCH NUMBER 172188**

<b>Description:</b>	RECOMBINANT HUMAN TNF ALPHA
<b>Name:</b>	TNF ALPHA
<b>Format:</b>	Rec. Protein
<b>Product Type:</b>	Recombinant Protein
<b>Quantity:</b>	10 µg

### 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
ELISA	▪			0.2 - 0.4ng/well
Western Blotting	▪			1.5 - 3.0ng/lane
Functional Assays	▪			0.05ng/ml - 20ng/ml

Where this protein 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 protein for use in their own system using appropriate positive/negative controls.

<b>Target Species</b>	Human
<b>Product Form</b>	Purified recombinant cytokine - lyophilized
<b>Reconstitution</b>	<p>Reconstitute with 0.1 ml distilled water</p> <p>Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution. For long term storage the addition of 0.09% sodium azide is recommended.</p> <p>N.B. For functional studies do not add sodium azide</p>
<b>Source</b>	E.coli
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	None present
<b>Carrier Free</b>	Yes

<b>Endotoxin Level</b>	< 0.1 ng/ug
<b>Approx. Protein Concentrations</b>	Total protein concentration 0.1 mg/ml after reconstitution
<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>Product Information</b>	<b>Recombinant Human tumor necrosis factor alpha</b> is an <i>E. coli</i> -derived recombinant protein corresponding to the C-terminal domain of human tumour necrosis factor alpha (TNFa), a pro-inflammatory cytokine with cytotoxic effects on various tumour cells.
<b>Protein Molecular Weight</b>	17.4 kDa based on 157 amino acid sequence
<b>Activity</b>	PHP051A has a specific activity of >2 x 10 <sup>7</sup> units/mg as determined by cytolysis of L929 cells in the presence of Actinomycin D.
<b>Purity</b>	>98% by SDS PAGE and HPLC analysis
<b>ELISA</b>	This product may be used as a standard in ELISA with either <a href="#">AHP1212</a> or <a href="#">AHP1212B</a> .
<b>Western Blotting</b>	This product may be used as the positive control in Western Blotting applications with either <a href="#">AHP1212</a> or <a href="#">AHP1212B</a> .
<b>References</b>	<ol style="list-style-type: none"> <li>1. Cernuda-morollón, E. <i>et al.</i> (2001) 15-Deoxy-Delta 12,14-prostaglandin J2 inhibition of NF-kappaB-DNA binding through covalent modification of the p50 subunit. <a href="#">J Biol Chem. 276 (38): 35530-6.</a></li> <li>2. Dernfalk, J. <i>et al.</i> (2004) Commercially available antibodies to human tumour necrosis factor-alpha tested for cross-reactivity with ovine and bovine tumour necrosis factor-alpha using flow cytometric assays. <a href="#">Acta Vet Scand. 45: 99-107.</a></li> <li>3. Taubert, A. <i>et al.</i> (2007) Eimeria bovis infection enhances adhesion of peripheral blood mononuclear cells to and their transmigration through an infected bovine endothelial cell monolayer in vitro. <a href="#">Parasitol Res. 101: 591-8.</a></li> <li>4. Taubert, A. &amp; Hermosilla, C. (2008) Bovine recombinant IFNgamma induces endothelial cell gene transcription of immunoregulatory molecules and upregulates PMN and PBMC adhesion on bovine endothelial cells. <a href="#">Vet Res Commun. 32: 35-47.</a></li> <li>5. Gerber, P.A. <i>et al.</i> (2016) Mechanisms of skin aging induced by EGFR inhibitors. <a href="#">Support Care Cancer. 24 (10): 4241-8.</a></li> <li>6. Hara, H. <i>et al.</i> (2021) Stable expression of the human thrombomodulin transgene in pig endothelial cells is associated with a reduction in the inflammatory response. <a href="#">Cytokine. 148: 155580.</a></li> <li>7. Yamazaki, N. <i>et al.</i> (2022) VE-cadherin-dependent vasculogenic mimicry-like tube</li> </ol>

formation in rheumatoid arthritic synovium, [Res Sq. 10 Oct \[Epub ahead of print\]](#).  
8. Kislak, A. *et al.* (2023) The Endogenous Dual Retinoid Receptor Agonist Alitretinoin Exhibits Immunoregulatory Functions on Antigen-Presenting Cells. [Int J Mol Sci. 24 \(11\):9654](#).

---

**Storage** Prior to reconstitution store at -20°C. Following reconstitution store at -20°C.

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.

---

**Guarantee** Guaranteed for 3 months from the date of reconstitution or until the date of expiry, whichever comes first. Please see label for expiry date.

---

**Health And Safety Information** Material Safety Datasheet documentation #10527 available at: <https://www.bio-rad-antibodies.com/SDS/PHP051A>

---

**Regulatory** For research purposes only

---

**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)  
'M433618:241118'

**Printed on 29 Jan 2026**