Datasheet: MCA1477

<table>
<thead>
<tr>
<th>Description:</th>
<th>RAT ANTI HUMAN CD3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specificity:</td>
<td>CD3</td>
</tr>
<tr>
<td>Format:</td>
<td>Purified</td>
</tr>
<tr>
<td>Product Type:</td>
<td>Monoclonal Antibody</td>
</tr>
<tr>
<td>Clone:</td>
<td>CD3-12</td>
</tr>
<tr>
<td>Isotype:</td>
<td>IgG1</td>
</tr>
<tr>
<td>Quantity:</td>
<td>0.2 mg</td>
</tr>
</tbody>
</table>

**Product Details**

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).

<table>
<thead>
<tr>
<th>Application</th>
<th>Yes</th>
<th>No</th>
<th>Not Determined</th>
<th>Suggested Dilution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Cytometry (1)</td>
<td></td>
<td></td>
<td></td>
<td>1/50 - 1/100</td>
</tr>
<tr>
<td>Immunohistology - Frozen</td>
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<td></td>
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<td>1/100</td>
</tr>
<tr>
<td>Immunohistology - Paraffin (2)</td>
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<td>1/100</td>
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<td>ELISA</td>
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<tr>
<td>Immunoprecipitation</td>
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<td>Western Blotting</td>
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<tr>
<td>Immunofluorescence</td>
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The PrecisionAb label is reserved for antibodies that meet the defined performance criteria within Bio-Rad's ongoing antibody validation programme. Click [here](http://www.bio-rad-antibodies.com/protocols) to learn how we validate our PrecisionAb range. Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. 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. The use of Leucoperm (Product Code BUF09) is recommended for this purpose.**
(2) **This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. Tris/EDTA buffer pH 9.0 is recommended for this purpose.**

**Target Species:** Human

**Species Cross Reactivity:** Reacts with: Bovine, Dog, Horse, Rhesus Monkey, Pig, Chicken, Mouse, Duck, Koala, Harbour Porpoise, Alpaca, Cynomolgus monkey, Spotted Hyena, Sea Lion, Cat, Amazon Parrot, Raccoon, Great horned owl (Bubo virginianus), Bullfrog, Xenopus, Rabbit, African green monkey
Based on sequence similarity, is expected to react with: Mammals, Birds, Amphibia

**N.B.** Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

**Product Form**
- Purified IgG - liquid

**Preparation**
- Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

**Buffer Solution**
- Phosphate buffered saline

**Preservative Stabilisers**
- 0.09% sodium azide ($\text{NaN}_3$)

**Carrier Free**
- Yes

**Approx. Protein Concentrations**
- IgG concentration 1.0 mg/ml

**Immunogen**
- Synthetic peptide sequence derived from cytoplasmic epitope of CD3 (Glu-Arg-Pro-Pro-Pro-Val-Pro-Asn-Pro-Asp-Tyr-Glu-Pro-Cys) (ERPPVPNPDYEPC)

**External Database Links**
- UniProt: P07766
- Entrez Gene: 916 CD3E

**Synonyms**
- T3E

**RRID**
- AB_321245

**Specificity**
- Rat anti Human CD3 antibody, clone CD3-12 raised against a peptide representing an invariant cytoplasmic sequence within the CD3ɛ chain recognizes human CD3ɛ. CD3 is a multimeric protein complex composed of four distinct polypeptide chains ($\epsilon$, $\gamma$, $\delta$, $\zeta$) that assemble and function as three pairs of dimers ($\epsilon\gamma$, $\epsilon\delta$, $\zeta\zeta$). The CD3 complex serves as a T cell co-receptor that associates non-covalently with the T cell receptor (TCR) ([Malissen 2008](https://www.ncbi.nlm.nih.gov/pubmed/18706966); [Guy and Vignali 2009](https://www.ncbi.nlm.nih.gov/pubmed/19348991); [Smith-Garvin et al. 2009](https://www.ncbi.nlm.nih.gov/pubmed/19607938)). CD3 is a defining feature of cells belonging to the T cell lineage and can therefore be used as T cell marker.

As Rat anti Human CD3, clone CD3-12 has been raised against an epitope within the epsilon peptide chain, highly conserved among species clone CD3-12 has a very broad species crossreactivity for the CD3 marker. ([Jones et al. 1993](https://www.ncbi.nlm.nih.gov/pubmed/8221984); [Kothlow et al. 2005](https://www.ncbi.nlm.nih.gov/pubmed/15996370)).

**Histology Positive Control Tissue**
- Human tonsil


24. Dewals B.G., et al. (2011) Malignant catarrhal fever induced by Alcelaphine herpesvirus 1 is characterized by an expansion of activated CD3+CD8+CD4- T cells expressing a cytotoxic phenotype in both lymphoid and non-lymphoid tissues Vet Res. 42:95
38. Zhang, M.Z. et al. (2015) Inhibition of cyclooxygenase-2 in hematopoietic cells results
77. Cohen, M. et al. (2021) Meningeal lymphoid structures are activated under acute and

Further Reading

2. Burudi, E.M. *et al.* (2002) Regulation of indoleamine 2,3-dioxygenase expression in

**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

**Acknowledgements**

PrecisionAb is a trademark of Bio-Rad Laboratories

**Health And Safety Information**

Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA1477

10040

**Regulatory**

For research purposes only

**Recommended Products**

**Recommended Secondary Antibodies**

Rabbit Anti Rat IgG (STAR16...), DyLight®800
Rabbit Anti Rat IgG (STAR17...), FITC
Goat Anti Rat IgG (STAR72...), HRP
Goat Anti Rat IgG (STAR69...), FITC
Goat Anti Rat IgG (STAR73...), RPE
Rabbit Anti Rat IgG (STAR21...), HRP
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...), DyLight®550, DyLight®650, DyLight®800
Goat Anti Rat IgG (STAR131...), Alk. Phos., Biotin

**Recommended Negative Controls**

RAT IgG1 NEGATIVE CONTROL (MCA6004GA)

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

'M409819:221021'

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