

Datasheet: 0300-0230

**BATCH NUMBER 169800**

<b>Description:</b>	RABBIT ANTI HUMAN C4d
<b>Specificity:</b>	C4d
<b>Other names:</b>	COMPLEMENT COMPONENT 4d
<b>Format:</b>	Purified
<b>Product Type:</b>	Polyclonal Antibody
<b>Isotype:</b>	Polyclonal IgG
<b>Quantity:</b>	0.25 ml

## 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
Immunohistology - Frozen	▪			1/20 - 1/80
Immunohistology - Paraffin (1)	▪			1/20 - 1/80
Immunofluorescence	▪			1/20 - 1/80

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 the appropriate negative/positive controls.

**(1)This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. TRIS/EDTA buffer pH 8.5 is recommended for this purpose.**

<b>Target Species</b>	Human
<b>Product Form</b>	Purified Ig - liquid
<b>Preparation</b>	Purified Ig prepared by affinity chromatography on Protein G.
<b>Buffer Solution</b>	Phosphate buffered saline.
<b>Preservative Stabilisers</b>	0.1% ProClin 950
<b>Immunogen</b>	Synthetic peptide corresponding to amino acids 1241-1256 of C4 conjugated to Keyhole limpet Haemocyanin.

<b>External Database Links</b>	<b>UniProt:</b> <a href="#">P0C0L4</a> <a href="#">Related reagents</a> <a href="#">P0C0L5</a> <a href="#">Related reagents</a>  <b>Entrez Gene:</b> <a href="#">720</a> C4A <a href="#">Related reagents</a> <a href="#">721</a> C4B <a href="#">Related reagents</a>
<b>Synonyms</b>	CO4, CPAMD2, CPAMD3
<b>RRID</b>	AB_620313
<b>Specificity</b>	<p><b>Rabbit anti Human C4d antibody</b> is a polyclonal antibody specific for human complement split product C4d.</p> <p>This antibody is raised against a 15-mer peptide corresponding to amino acids 1242 to 1256 of human C4. It is validated for immunohistological and immunofluorescent staining in both frozen and formalin-fixed paraffin-embedded sections.</p> <p>C4d is a breakdown product of complement factor C4b. Although C4d does not have any known biological activity, it is commonly used as a biomarker for studies investigating the classical pathway of complement activation as well as antibody-mediated rejection (AMR) in transplant patients (<a href="#">Cohen, et al. 2012</a>).</p>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Regele, H. <i>et al.</i> (2001) Endothelial C4d deposition is associated with inferior kidney allograft outcome independently of cellular rejection. <a href="#">Nephrol Dial Transplant. 16 (10): 2058-66.</a></li> <li>2. Viana, H. <i>et al.</i> (2009) C4d presence in kidney allograft biopsy: sensitivity and specificity of immunoperoxidase vs. immunofluorescence. <a href="#">N: 10th Banff Conference on Allograft Pathology, 2009, 9 a 14 Ago. Banff, Alberta, Canada</a></li> <li>3. Santos, A. <i>et al.</i> (2012) C4d detection in renal allograft biopsies: immunohistochemistry vs. immunofluorescence <a href="#">Port J Nephrol Hypert 26 (4): 272-7.</a></li> <li>4. Sreedharanunni, S. <i>et al.</i> (2014) An analysis of transplant glomerulopathy and thrombotic microangiopathy in kidney transplant biopsies. <a href="#">Transpl Int. 27 (8): 784-92.</a></li> <li>5. Sethi, S. <i>et al.</i> (2015) C4d as a Diagnostic Tool in Proliferative GN. <a href="#">J Am Soc Nephrol. 26 (11): 2852-9.</a></li> <li>6. Mahakur, S. <i>et al.</i> (2018) Allo-specific immune response profiles indicative of acute rejection in kidney allografts using an <i>in vitro</i> lymphocyte culture-based model. <a href="#">Clin Exp Nephrol. 22 (2): 465-73.</a></li> <li>7. Hanaoka, K. <i>et al.</i> (2019) Benefits of a loading dose of tacrolimus on graft survival of kidney transplants in nonhuman primates <a href="#">Transplant Immunology. 52: 32-9.</a></li> </ol>
<b>Storage</b>	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.

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<b>Guarantee</b>	Guaranteed until date of expiry. Please see product label.
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<b>Acknowledgements</b>	ProClin is a trademark of The Dow Chemical Company (“Dow”) or an affiliated company of Dow.
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #20479 available at: <a href="https://www.bio-rad-antibodies.com/SDS/0300-0230">https://www.bio-rad-antibodies.com/SDS/0300-0230</a>
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<b>Regulatory</b>	For research purposes only.
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## Related Products

### Recommended Secondary Antibodies

Goat Anti Rabbit IgG (H/L) (STAR124...) [HRP](#)

Goat Anti Rabbit IgG (Fc) (STAR121...) [Biotin](#), [FITC](#), [HRP](#)

Sheep Anti Rabbit IgG (STAR35...) [RPE](#)

### Recommended Useful Reagents

[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025A\)](#)

**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)  
'M432683:240912'

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