

Datasheet: HCA004

**BATCH NUMBER 171179**

<b>Description:</b>	HUMAN ANTI CD292
<b>Specificity:</b>	CD292
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	AbD01564
<b>Isotype:</b>	HuCAL Fab monovalent
<b>Quantity:</b>	0.1 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
ELISA	▪			2ug/ml
Western Blotting	▪			2ug/ml
Functional Assays	▪			

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 appropriate negative/positive controls.

### Target Species

Human

### Species Cross Reactivity

Reacts with: Mouse

Based on sequence similarity, is expected to react with: Bovine, Dog

**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

Monovalent human recombinant Fab (lambda light chain) selected from the HuCAL GOLD phage display library. Expressed in *E. coli* and purified using Streptactin affinity chromatography. The antibody is tagged with a strepII-tag (NWSHPQFEK) at the C-terminus of the antibody heavy chain-liquid.

### Preparation

Streptactin affinity chromatography

<b>Source</b>	E.coli
<b>Buffer Solution</b>	Phosphate buffered saline.
<b>Preservative Stabilisers</b>	0.09% sodium azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	Antibody concentration 0.5 mg/ml
<b>Immunogen</b>	Human BMPR-1A extracellular domain, recombinant expressed in <i>E. coli</i> (amino acid residues 24-152, molecular weight 14.2 kDa)
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P36894</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">657</a>    BMPR1A    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	ACVRLK3, ALK3
<b>RRID</b>	AB_2064257
<b>Specificity</b>	<p><b>Human anti Human CD292 antibody, clone AbD01564</b> recognizes human CD292, also known as bone morphogenetic protein receptor type 1A (BMPR-1A) and does not cross-react with human BMPR-1B.</p> <p>The bone morphogenetic protein (BMP) receptors are a family of transmembrane serine/threonine kinases that include the type I receptors BMPR-1A and BMPR-1B and the type II receptor BMPR2. These receptors are also closely related to the activin receptors, ACVR1 and ACVR2. The ligands of these receptors are members of the TGF-beta superfamily. BMPR-1A is the receptor for BMP-2 and BMP-4. TGF-betas and activins transduce their signals through the formation of heteromeric complexes with 2 different types of serine (threonine) kinase receptors: type I receptors of about 50-55 kDa and type II receptors of about 70-80 kDa. Type II receptors bind ligands in the absence of type I receptors, but they require their respective type I receptors for signalling, whereas type I receptors require their respective type II receptors for ligand binding.</p> <p>In humans, mutations in the BMPR-1A gene are responsible for juvenile polyposis syndrome, juvenile intestinal polyposis, and Cowden disease. Human anti Human CD292 antibody inhibits BMP-2 mediated stimulation of C2C12 cells.</p>
<b>Activity</b>	Activity was tested by indirect ELISA: recombinant purified BMPR-1A (5µg/ml) plus unrelated control proteins were immobilized on a microtiter plate. Specific binding was monitored by first adding HCA004 (2 µg/ml), then adding a secondary antibody (goat anti-human F(ab') <sub>2</sub> fragment specific, AP conjugate, 1:5000 diluted). A fluorescent signal was created by adding the AP substrate Attophos. The signal on the antigen is at least 5-fold above background, whereas the signal on the control antigens is less than 1.5-fold

above back-ground.

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<b>Purity</b>	Purity was tested by SDS-PAGE and Coomassie-staining of a 2 µg sample.
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<b>Affinity</b>	kD = 2.2 nM The monovalent intrinsic affinity of HCA004 was measured by BIAcore on the immobilized BMPR-1A extracellular domain.
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<b>References</b>	1. Harth, S. <i>et al.</i> (2010) A selection fit mechanism in BMP receptor IA as a possible source for BMP ligand-receptor promiscuity. <a href="#">PLoS One. 5(9). pii: e13049.</a> 2. Harth, S. <i>et al.</i> (2010) Crystallization of BMP receptor type IA bound to the antibody Fab fragment AbD1556. <a href="#">Acta Crystallogr Sect F Struct Biol Cryst Commun. 66: 964-8.</a>
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<b>Further Reading</b>	1. Katagiri, T. <i>et al.</i> (1994) Bone morphogenetic protein-2 converts the differentiation pathway of C2C12 myoblasts into the osteoblast lineage. <a href="#">J Cell Biol. 127 (6 Pt 1): 1755-66.</a>
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<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>	12 months from date of despatch
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<b>Acknowledgements</b>	This product and/or its use is covered by claims of U.S. patents, and/or pending U.S. and non-U.S. patent applications owned by or under license to Bio-Rad Laboratories, Inc. See <a href="http://bio-rad.com/en-us/trademarks">bio-rad.com/en-us/trademarks</a> for details. Blot data kindly provided by Professor Sebald, University of Wuerzburg, Germany.
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/HCA004">https://www.bio-rad-antibodies.com/SDS/HCA004</a>
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<b>Regulatory</b>	For research purposes only
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<b>Technical Advice</b>	Recommended protocols and further information about HuCAL recombinant antibody technology can be found in the <a href="#">HuCAL Antibodies Technical Manual</a> . This antibody contains Strep-tag and will react with streptavidin.
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## Related Products

### Recommended Secondary Antibodies

Goat Anti Human IgG F(ab')<sub>2</sub> (0500-0099...)

[Alk. Phos.](#), [HRP](#)

Mouse Anti Synthetic Peptide STREP-TAG CLASSIC (MCA2489...)[HRP](#)

**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)  
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