

Datasheet: HCA004

BATCH NUMBER 156110

Description:	HUMAN ANTI CD292
Specificity:	CD292
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	AbD01564
Isotype:	HuCAL Fab monovalent
Quantity:	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.

	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.

Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃)
Approx. Protein Concentrations	Antibody concentration 0.5 mg/ml.
Immunogen	Human BMPR-1A extracellular domain, recombinant expressed in <i>E. coli</i> (amino acid residues 24-152, molecular weight 14.2 kDa)
External Database Links	<p>UniProt: P36894 Related reagents</p> <p>Entrez Gene: 657 BMPR1A Related reagents</p>
Synonyms	ACVRLK3, ALK3
RRID	AB_2064257
Specificity	<p>Human anti Human CD292 antibody, clone AbD01564 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>
Activity	Activity was tested by indirect ELISA: recombinant purified BMPR-1A (5 µg/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') ₂ 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.

Purity	Purity was tested by SDS-PAGE and Coomassie-staining of a 2 µg sample.
Affinity	kD = 2.2 nM The monovalent intrinsic affinity of HCA004 was measured by BIAcore on the immobilized BMPR-1A extracellular domain.
References	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. PLoS One. 5(9). pii: e13049. 2. Harth, S. <i>et al.</i> (2010) Crystallization of BMP receptor type IA bound to the antibody Fab fragment AbD1556. Acta Crystallogr Sect F Struct Biol Cryst Commun. 66: 964-8.
Further Reading	1. Katagiri, T. <i>et al.</i> (1994) Bone morphogenetic protein-2 converts the differentiation pathway of C2C12 myoblasts into the osteoblast lineage. J Cell Biol. 127 (6 Pt 1): 1755-66.
Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Guarantee	12 months from date of despatch
Acknowledgements	Sold under license of U.S. Patents 6,300,064, 6,696,248, 6,708,484, 6,753,136, European Patent 0,859,841 and corresponding patents. This antibody was developed by Bio-Rad, Zeppelinstr. 4, 82178 Puchheim, Germany. Blot data kindly provided by Professor Sebald, University of Wuerzburg, Germany.
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/HCA004 10040
Licensed Use	For in vitro research purposes only, unless otherwise specified in writing by Bio-Rad.
Regulatory	For research purposes only
Technical Advice	Recommended protocols and further information about HuCAL recombinant antibody technology can be found in the HuCAL Antibodies Technical Manual

Related Products

Recommended Secondary Antibodies

Goat Anti Human IgG F(ab')₂ (0500-0099...)

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

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

North & South America Tel: +1 800 265 7376
Fax: +1 919 878 3751
Email: antibody_sales_us@bio-rad.com

Worldwide Tel: +44 (0)1865 852 700
Fax: +44 (0)1865 852 739
Email: antibody_sales_uk@bio-rad.com

Europe Tel: +49 (0) 89 8090 95 21
Fax: +49 (0) 89 8090 95 50
Email: antibody_sales_de@bio-rad.com

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M371471:200612'

Printed on 20 Mar 2025

© 2025 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)