

Datasheet: HCA004

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.
Product Form	Monovalent human recombinant Fab (lambda light chain) selected from the HuCAL [®] GOLD phage display library. Expressed in <i>E. coli</i> 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

UniProt:

[P36894](#) [Related reagents](#)

Entrez Gene:

[657](#) BMPR1A [Related reagents](#)

Synonyms

ACVRLK3, ALK3

Specificity

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.

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.

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.

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 background.

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. *et al.* (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. *et al.* (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.](#)
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Further Reading

1. Katagiri, T. *et al.* (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.](#)
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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.

Shelf Life	12 months from date of despatch.
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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.
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Health And Safety Information	Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
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Licensed Use	For in vitro research purposes only, unless otherwise specified in writing by Bio-Rad.
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Regulatory	For research purposes only
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Technical Advice	Recommended protocols and further information about HuCAL recombinant antibody technology can be found in the HuCAL Antibodies Technical Manual
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Related Products

Recommended Secondary Antibodies

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

Goat Anti Human IgG F(ab')₂ (0500-0099...) [Alk. Phos.](#), [HRP](#)

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