

## Datasheet: HCA299

**BATCH NUMBER 166863**

<b>Description:</b>	HUMAN ANTI NIVOLUMAB
<b>Specificity:</b>	NIVOLUMAB
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	AbD30255
<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	▪			

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.

### Product Form

A monovalent human recombinant Fab (lambda light chain) selected from the HuCAL phage display library, expressed in *E. coli*. The antibody is tagged with a DYKDDDDK tag and a HIS-tag (HHHHHH) at the C-terminus of the antibody heavy chain. This antibody is supplied as a liquid.

### Preparation

Metal chelate affinity chromatography

### Source

*E.coli*

### Buffer Solution

Phosphate buffered saline

### Preservative Stabilisers

0.09% Sodium Azide (NaN<sub>3</sub>)

### Approx. Protein Concentrations

Antibody concentration 0.5 mg/ml

### Immunogen

Nivolumab

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**Specificity** **Human Anti-Nivolumab Antibody, clone AbD30255** is a paratope specific, inhibitory anti-idiotypic antibody that specifically recognizes the monoclonal antibody drug nivolumab. The antibody does not recognize recombinant human programmed cell death 1 (PD-1) or nivolumab in complex with recombinant human PD-1 and can be used to measure free nivolumab levels in serum from patients.

A pair of anti-nivolumab antibodies can be used to develop a pharmacokinetic (PK) bridging assay to measure free drug. This antibody, in monovalent Fab format, is recommended as the capture antibody, paired with an HRP conjugated Anti-Nivolumab Antibody in full immunoglobulin format, clone AbD30258\_hIgG1 ([HCA301](#)) as the detection antibody.

Nivolumab (Opdivo) is a fully human antibody (IgG4/kappa), with the heavy chain mutation S228P (IgG4-Pro). It is used as a first line treatment for inoperable or metastatic melanoma in combination with ipilimumab if the cancer does not have a mutation in BRAF. It is also approved for treatment of advanced non-small cell lung cancer, advanced renal cell carcinoma, classical Hodgkin's lymphoma and advanced head and neck squamous cell carcinoma. Nivolumab is a checkpoint inhibitor and acts as an immuno-modulator by blocking ligand activation of PD-1 receptor on T cells, thereby activating T cells to attack the cancer. Nivolumab blocks PD-1 interaction with PD-1 ligand (PD-L1) and PD-1 ligand 2 (PD-L2).

[View a summary of all anti-nivolumab antibodies](#)

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**Affinity** The intrinsic affinity of the monovalent form of Human anti Nivolumab antibody, clone AbD30255 is  $K_D = 0.5$  nM as measured by real time, label free molecular interaction analysis on immobilized Nivolumab.

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**ELISA** Human anti Nivolumab antibody, clone AbD30255 can be used in a direct or indirect ELISA system or as capture antibody for nivolumab in a bridging ELISA together with [HCA301](#) (AbD30258\_hIgG1) as the detection reagent.  
Protocol: [PK bridging ELISA to measure free drug](#) .

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**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.

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**Guarantee** 12 months from date of despatch

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**Acknowledgements** 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 [bio-rad.com/en-us/trademarks](http://bio-rad.com/en-us/trademarks) for details.  
Opdivo is a trademark of Bristol-Myers Squibb Company.  
His-tag is a trademark of EMD Biosciences.

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**Health And Safety Information** Material Safety Datasheet documentation #10040 available at:  
<https://www.bio-rad-antibodies.com/SDS/HCA299>  
10040

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**Licensed Use** For *in vitro* research purposes and for commercial applications for the provision of *in vitro* testing services to support preclinical and clinical drug development. Any re-sale in any form or any other commercial application needs a written agreement with 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

Rat Anti Synthetic Peptide DYKDDDDK TAG (MCA4764...) [Purified](#)

Mouse Anti Synthetic Peptide HISTIDINE TAG (MCA5995...) [HRP](#)

### Recommended Negative Controls

[HuCAL Fab-FH NEGATIVE CONTROL \(HCA045\)](#)

### Recommended Useful Reagents

[HISPEC ASSAY DILUENT \(BUF049A\)](#)

[LYNX RAPID HRP ANTIBODY CONJUGATION KIT \(LNK002P\)](#)

[HUMAN ANTI NIVOLUMAB \(HCA301\)](#)

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