

## Datasheet: HCA177G

<b>Description:</b>	HUMAN ANTI TRASTUZUMAB
<b>Specificity:</b>	TRASTUZUMAB
<b>Other names:</b>	HERCEPTIN
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	AbD18018_hlgG1
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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.

<b>Product Form</b>	Human IgG1 antibody (lambda light chain) selected from the HuCAL phage display library and expressed in a human cell line. This antibody is supplied as a liquid.
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A
<b>Source</b>	HKB-11
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Trastuzumab

## Specificity

**Human Anti-Trastuzumab Antibody, clone AbD18018\_hlgG1**, is a paratope specific, high affinity, anti-idiotypic antibody that specifically recognizes the monoclonal antibody drug trastuzumab and inhibits it binding to its target. The antibody can be used to measure the levels of trastuzumab and biosimilar products in bioanalytical assays.

Clone AbD18018\_hlgG1 is a fully human recombinant monoclonal antibody with IgG1 isotype and is suitable as a reference standard in an anti-drug antibody (ADA) assay. Additionally the antibody can be used to develop a pharmacokinetic (PK) bridging assay to measure free drug in preclinical research and clinical trials using patient sera. This antibody, in full immunoglobulin format and conjugated to HRP, is recommended as the detection antibody, paired with antibody clone AbD16712 ([HCA166](#)) or clone AbD18141 ([HCA169](#)), both monovalent Fab format, as the capture antibody.

This clone is also available in IgG4 isotype format ([HCA270](#)) in order to offer assay developers increased flexibility in assay design. When used as an ELISA detection antibody, a secondary anti-human IgG4 antibody is required, which can be labeled according to the needs of the user's preferred assay platform.

Trastuzumab, also known as Herceptin, is a drug used in the treatment of HER2 positive breast cancer and other HER2 over-expressing cancers including HER2-positive metastatic cancers of the gastrointestinal tract. Trastuzumab binds to the HER2 (or c-erbB2) proto-oncogene, an EGF receptor-like protein found on 20-30% of breast cancer cells. The binding leads to antibody mediated (complement mediated) killing of the HER2 positive cells.

[View a summary of all Anti-Trastuzumab Antibodies](#)

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## Affinity

The intrinsic affinity of the monovalent form of this antibody is  $K_D=0.02$  nM as measured by real time, label-free molecular interaction analysis on immobilized trastuzumab.

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## ELISA

This product may be used as a detection reagent in a sandwich ELISA, when conjugated to HRP, together with [HCA169](#) as the capture reagent.

Protocol: [PK bridging ELISA to measure free drug](#)

This antibody is fully human and can be used as a reference standard in an ADA assay.

Protocol: [ADA bridging ELISA](#).

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## References

1. Bults, P. *et al.* (2016) LC-MS/MS-Based Monitoring of In Vivo Protein Biotransformation: Quantitative Determination of Trastuzumab and Its Deamidation Products in Human Plasma. [Anal Chem. 88 \(3\): 1871-7.](#)
2. Harth, S. *et al.* (2019) Generation by phage display and characterization of drug-target complex-specific antibodies for pharmacokinetic analysis of biotherapeutics. [MAbs. 11 \(1\): 178-190.](#)
3. Iwamoto, N. *et al.* (2018) Antibody drug quantitation in coexistence with anti-drug antibodies on nSMOL bioanalysis. [Anal Biochem. 540-541: 30-7.](#)
4. Nagai, Y. *et al.* (2024) Unveiling the intra-tumor fate of trastuzumab deruxtecan in a xenograft model to support its mechanism of action [Drug Metabolism and Pharmacokinetics. : 101001.](#)

**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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**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/HCA177G>  
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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 Useful Reagents

[MOUSE ANTI HUMAN IgG \(Fc\) CH2 DOMAIN:HRP \(MCA647P\)](#)

[HUMAN ANTI TRASTUZUMAB \(HCA166\)](#)

[HUMAN ANTI TRASTUZUMAB \(HCA169\)](#)

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

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

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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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