

Product datasheet

Recombinant human ErbB2 / HER2 (biotinylated ) protein (Active) (Biotin) ab200500

3 Images

Description

|                     |   |
|---------------------|---|
| Product name        | Recombinant human ErbB2 / HER2 (biotinylated ) protein (Active) (Biotin)  |
| Biological activity | Measured by its binding ability in a functional ELISA.<br><br>Immobilized Herceptin mAb at 3 µg/mL (100 µl/well) can bind ab200500.<br><br>The EC <sub>50</sub> of ab200500 is 0.09-1 ng/mL.  |
| Purity              | > 95 % SDS-PAGE.  |
| Endotoxin level     | < 1.000 Eu/µg   |
| Expression system   | HEK 293 cells   |
| Accession           | <b><u>P04626</u></b>  |
| Protein length      | Protein fragment  |
| Animal free         | No  |
| Nature              | Recombinant   |
| Species             | Human   |
| Sequence            | TQVCTGTD MK LRLPASPETH LDMLRHLYQG<br>CQVVQGNLEL TYLPTNASLS FLQDIQEVQG YVLIHNPQVR<br>QVPLQRLRIV RGTQLFEDNY ALAVLDNGDP<br>LNNTTPVTGA SPGGLRELQL RSLTEILKGG VLIQRNPQLC<br>YQDTILWKDI FHKNNQLALT LIDTNRSRAC<br>HPCSPMCKGS RCWGESSEDC QSLTRTV CAG<br>GCARCKGPLP TDCCHEQCAA GCTGPKHSDC<br>LACLHFNHSG ICELHCPALV TYNTDTFESM<br>PNPEGRYTFG ASCVTACPYN YLSTDVG SCT<br>LVCPLHNQEV TAEDGTQRCE KCSKPCARVC<br>YGLGMEHLRE VRAVTSANIQ EFAGCKKIFG<br>SLAFLPESFD GDPASNTAPL QPEQLQVFET LEEITGYLYI<br>SAWPDSL PDL SVFQNLQVIR GRILHNGAYS<br>LTLQGLGISW LGLRSLRELG SGLALIHNT HLCFVHTVPW<br>DQLFRNPHQA LLHTANRPED ECVGEGLACH<br>QLCARGHCWG PGPTQCVNCS QFLRGQECVE<br>ECRVLQGLPR EYVNARHCLP CHPECQPQNG<br>SVTCFGPEAD QCVACAHYKD PPFCVARCPS |

GVKPDLSYMP WKFPDEEGA CQPCPINCTH  
SCVDLDDKGC PAEQRASPLT

|  |                                  |
|--|----------------------------------|
| <b>Predicted molecular weight</b>      | 70 kDa including tags            |
| <b>Amino acids</b>                     | 23 to 652                        |
| <b>Tags</b>                            | His tag C-Terminus               |
| <b>Additional sequence information</b> | Extracellular domain (AAA75493). |
| <b>Conjugation</b>                     | Biotin                           |

## Specifications

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Our **Abpromise guarantee** covers the use of **ab200500** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

|                         |   |
|-------------------------|---|
| <b>Applications</b>     | Western blot<br><br>ELISA<br><br>SDS-PAGE<br><br>Functional Studies   |
| <b>Form</b>             | Lyophilized   |
| <b>Additional notes</b> | The primary amine of ab200500 was chemically labeled by specially optimized long spacer biotin reagent for detection in ELISA, dot blot or western blot using streptavidin or avidin-conjugated probes to give superior sensitivity.<br><br>The biotin to protein ratio is 1.5-3.5 as determined by the HABA assay. |

## Preparation and Storage

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|                              |  |
|------------------------------|--|
| <b>Stability and Storage</b> | Shipped at 4°C. Store at 4°C (stable for up to 12 months). Store at -20°C or -80°C. Avoid freeze / thaw cycle. For long term storage it is recommended to add a carrier protein on reconstitution (0.1% HSA or BSA).<br><br>pH: 7.40<br>Constituents: PBS, 5% Trehalose<br><br>Lyophilized from 0.22 µm filtered solution.<br>5-10% trehalose is commonly used for freeze drying, and after reconstitution, the trehalose is mostly about 3-5%<br><br>This product is an active protein and may elicit a biological response in vivo, handle with caution. |
| <b>Reconstitution</b>        | Reconstitute with sterile deionized water to a concentration of 100 µg/ml.   |

## General Info

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|                 |   |
|-----------------|---|
| <b>Function</b> | Protein tyrosine kinase that is part of several cell surface receptor complexes, but that apparently needs a coreceptor for ligand binding. Essential component of a neuregulin-receptor complex, although neuregulins do not interact with it alone. GP30 is a potential ligand for this receptor. Regulates outgrowth and stabilization of peripheral microtubules (MTs). Upon ERBB2 activation, the MEMO1-RHOA-DIAPH1 signaling pathway elicits the phosphorylation and thus the inhibition of GSK3B at cell membrane. This prevents the phosphorylation of APC and CLASP2, allowing its |
|-----------------|---|

association with the cell membrane. In turn, membrane-bound APC allows the localization of MACF1 to the cell membrane, which is required for microtubule capture and stabilization. In the nucleus is involved in transcriptional regulation. Associates with the 5'-TCAAATTC-3' sequence in the PTGS2/COX-2 promoter and activates its transcription. Implicated in transcriptional activation of CDKN1A; the function involves STAT3 and SRC. Involved in the transcription of rRNA genes by RNA Pol I and enhances protein synthesis and cell growth.

#### Tissue specificity

Expressed in a variety of tumor tissues including primary breast tumors and tumors from small bowel, esophagus, kidney and mouth.

#### Involvement in disease

Hereditary diffuse gastric cancer

Glioma

Ovarian cancer

Lung cancer

Gastric cancer

Chromosomal aberrations involving ERBB2 may be a cause gastric cancer. Deletions within 17q12 region producing fusion transcripts with CDK12, leading to CDK12-ERBB2 fusion leading to truncated CDK12 protein not in-frame with ERBB2.

#### Sequence similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily. Contains 1 protein kinase domain.

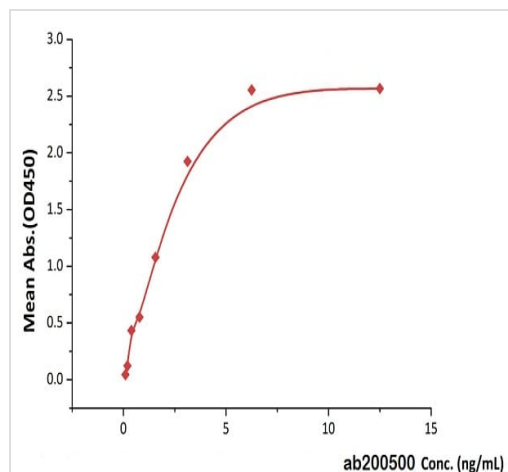
#### Post-translational modifications

Autophosphorylated. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit (Probable). Ligand-binding increases phosphorylation on tyrosine residues (PubMed:27134172). Signaling via SEMA4C promotes phosphorylation at Tyr-1248 (PubMed:17554007). Dephosphorylated by PTPN12 (PubMed:27134172).

#### Cellular localization

Cytoplasm. Nucleus and Cell membrane. Cytoplasm, perinuclear region. Nucleus. Translocation to the nucleus requires endocytosis, probably endosomal sorting and is mediated by importin beta-1/KPNB1.

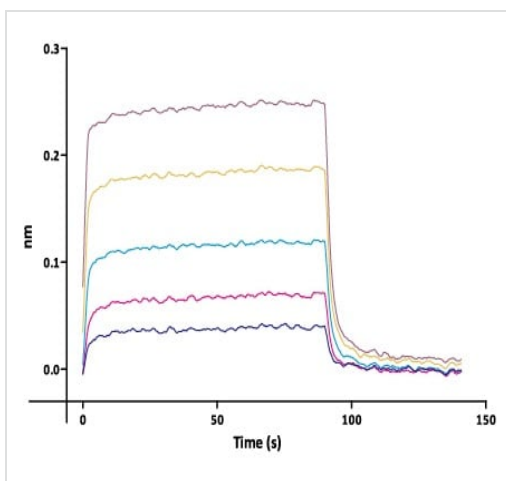
## Images



Immobilized Trastuzumab at 3 µg/mL (100 µL/well) binds ab200500.

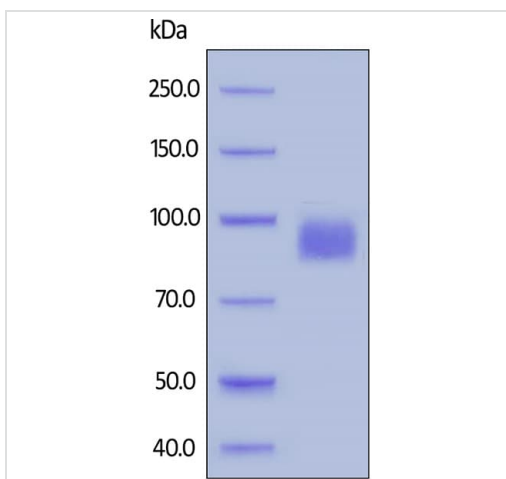
Linear range: 0.1-3.1 ng/mL (QC tested).

Functional Studies - Recombinant human ErbB2 /  
HER2 (biotinylated ) protein (Active) (Biotin)  
(ab200500)



Immobilized Herceptin on SA Biosensor via ab200500 binds Human FCGRT&B2M Heterodimer Protein, His Tag&Strep II Tag (SPR & BLI verified) with an affinity constant of 1.32  $\mu$ M, as determined in BLI assay (Fortebio Octet 96) (Routinely tested).

Functional Studies - Recombinant human ErbB2 / HER2 (biotinylated ) protein (Active) (Biotin) (ab200500)



Reduced ab200500 on SDS-PAGE, stained overnight with Coomassie Blue.

Purity of protein >95%.

The protein migrates as 95-100 kDa under reducing conditions, due to glycosylation.

SDS-PAGE - Recombinant human ErbB2 / HER2 (biotinylated ) protein (Active) (Biotin) (ab200500)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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