

## Product datasheet

# Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free ab194979

Recombinant RabMAb

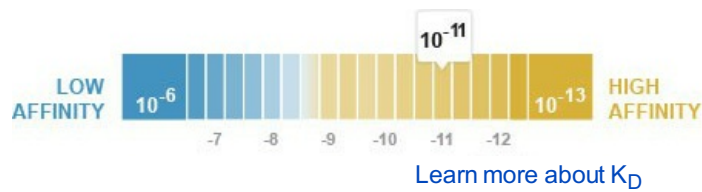
[7 References](#) [7 Images](#)

### Overview

<b>Product name</b>	Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free
<b>Description</b>	Rabbit monoclonal [EP1045Y] to ErbB2 / HER2 - BSA and Azide free
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, ICC/IF, IHC-P, IP <b>Unsuitable for:</b> Flow Cyt
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	corresponding to Human ErbB2/ HER2 (C terminal).
<b>Positive control</b>	SKBR-3 cell lysate; Human breast carcinoma tissue; SKBR cells
<b>General notes</b>	<p>Ab194979 is the carrier-free version of <a href="#">ab134182</a>. This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes.</p> <p>Our <a href="#">carrier-free formats</a> are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency.</p> <p>Use our <a href="#">conjugation kits</a> for antibody conjugates that are ready-to-use in as little as 20 minutes with &lt;1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.</p> <p>ab194979 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm.</p> <p><i>Maxpar® is a trademark of Fluidigm Canada Inc.</i></p> <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb® patents</a>.</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C. Do Not Freeze.
<b>Dissociation constant (K<sub>D</sub>)</b>	K <sub>D</sub> = 3.00 x 10 <sup>-11</sup> M



<b>Storage buffer</b>	pH: 7.2 Constituent: PBS
<b>Carrier free</b>	Yes
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EP1045Y
<b>Isotype</b>	IgG

## Applications

Our [Abpromise guarantee](#) covers the use of **ab194979** in the following tested applications.

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

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Detects a band of approximately 185 kDa (predicted molecular weight: 137 kDa). Please check the parent abID, <a href="#">ab134182</a> , for more information on dilutions.
ICC/IF		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
IP		Use at an assay dependent concentration.

**Application notes**                      Is unsuitable for Flow Cyt.

## Target

**Function**

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.

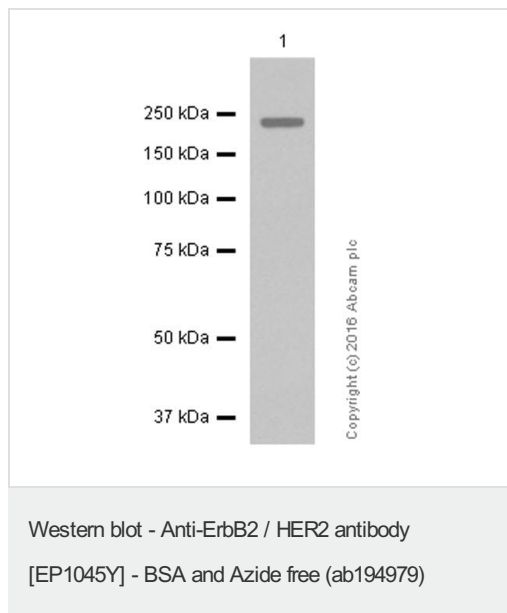
### Post-translational modifications

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



Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free (ab194979) + SKBR-3 (human mammary gland adenocarcinoma) whole cell lysate at 15 µg

### Secondary

Goat Anti-Rabbit IgG H&L (HRP) (ab97051)

**Predicted band size:** 137 kDa

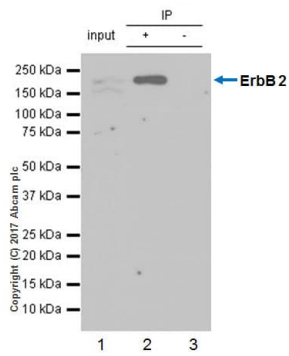
**Observed band size:** 185 kDa

[why is the actual band size different from the predicted?](#)

**Exposure time:** 3 seconds

Blocking buffer and concentration: 5% NFDM/TBST

Diluting buffer and concentration: 5% NFDM/TBST



Immunoprecipitation - Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free (ab194979)

[ab134182](#) (purified) at 1:30 dilution (2µg) immunoprecipitating ErbB2 / HER2 in HeLa whole cell lysate.

Lane 1 (input): HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg

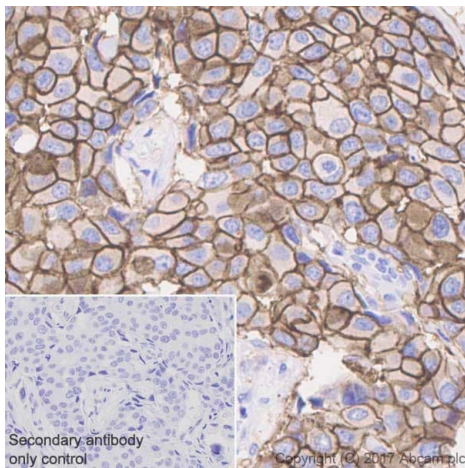
Lane 2 (+): [ab134182](#) & HeLa whole cell lysate

Lane 3 (-): Rabbit monoclonal IgG ([ab172730](#)) instead of [ab134182](#) in HeLa whole cell lysate

For western blotting, VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)) was used for detection at 1:1000 dilution.

Blocking and diluting buffer: 5% NFDm/TBST.

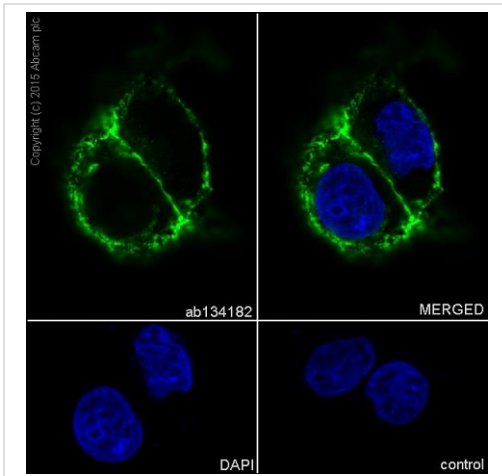
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab134182](#)).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free (ab194979)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human breast carcinoma tissue sections labeling ErbB2 / HER2 with Purified [ab134182](#) at 1:1600 dilution (0.68 µg/ml). Heat mediated antigen retrieval was performed using [ab93684](#) (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab134182](#)).

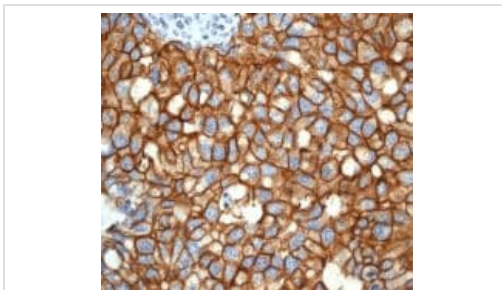


Immunocytochemistry/ Immunofluorescence - Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free (ab194979)

Immunocytochemistry/Immunofluorescence analysis of SK-BR-3 (human mammary gland adenocarcinoma) labelling ErbB2 / HER2 with purified [ab134182](#) at 1/125. Cells were fixed with 4% PFA and permeabilized with 0.1% Triton X-100. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody (Ab150077). Nuclei counterstained with DAPI (blue).

Control: PBS only

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab134182](#)).

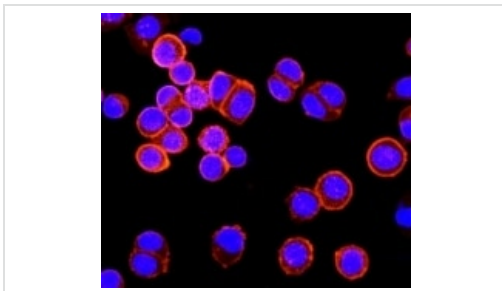


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free (ab194979)

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labelling ErbB2 / HER2 with [ab134182](#) at 1/100 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab134182](#)).

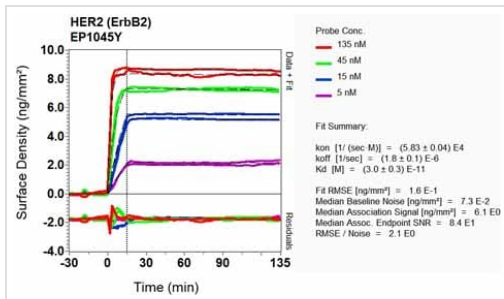
Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-ErbB2 / HER2 antibody [EP1045Y] - BSA and Azide free (ab194979)

Immunofluorescent analysis of SKBR cells labelling ErbB2 / HER2 with [ab134182](#) at 1/250 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab134182](#)).



Other - Anti-ErbB2 / HER2 antibody [EP1045Y] -  
BSA and Azide free (ab194979)

Equilibrium disassociation constant ( $K_D$ )

Learn more about  $K_D$

[Click here to learn more about  \$K\_D\$](#)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab134182](#)).

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