


Product datasheet

Anti-ErbB2 / HER2 antibody [SP101] ab231438

Recombinant **RabMAb**

[7 Images](#)

Overview

Product name	Anti-ErbB2 / HER2 antibody [SP101]
Description	Rabbit monoclonal [SP101] to ErbB2 / HER2
Host species	Rabbit
Tested applications	Suitable for: mIHC, IHC-P, WB
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat, Hamster, Dog 
Immunogen	Recombinant fragment within Human ErbB2/ HER2 aa 500-650. The exact sequence is proprietary. Extracellular domain. Database link: P04626
Positive control	IHC-P: Human breast carcinoma tissue. WB: SK-BR-3 whole cell lysate. mIHC: Human triple-positive breast carcinoma
General notes	This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.

Properties

Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.60 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Protein A/G purified
Purification notes	Purified from TCS by Protein A/G.
Clonality	Monoclonal
Clone number	SP101
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab231438 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
mlHC		1/100.
IHC-P		1/100. Boil tissue section in citrate buffer, pH 6.0 for 10 minutes followed by cooling at room temperature for 20 minutes. Incubate with primary antibody for 10 minutes at room temperature
WB		Use a concentration of 0.638 µg/ml. Predicted molecular weight: 137 kDa.

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.

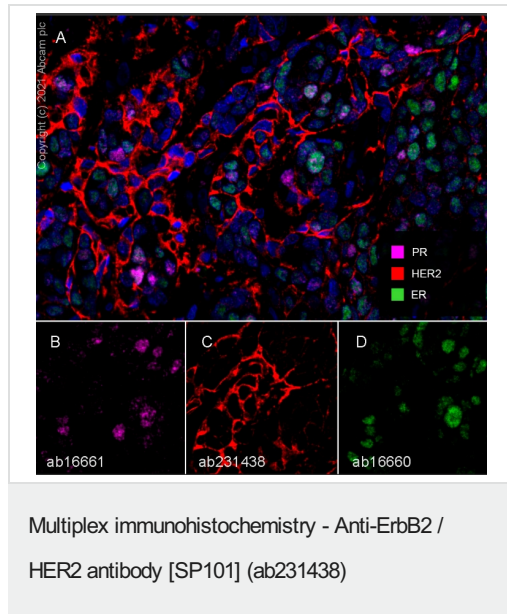
Post-translational modifications

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

Images



Multiplex immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human triple-positive breast carcinoma tissue sections labeling ErbB2 / HER2 with ab231438 at 1/100 dilution (1.59 µg/ml). Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins and Opal Polymer HRP Ms + Rb was used as the secondary antibody. DAPI was used as the nuclear counterstain.

Panel A: merged staining of anti-Progesterone Receptor (PR) (magenta; Opal™690), anti-HER2 (red; Opal™570) and anti-Estrogen Receptor (ER) (green; Opal™520) on human triple-positive breast carcinoma.

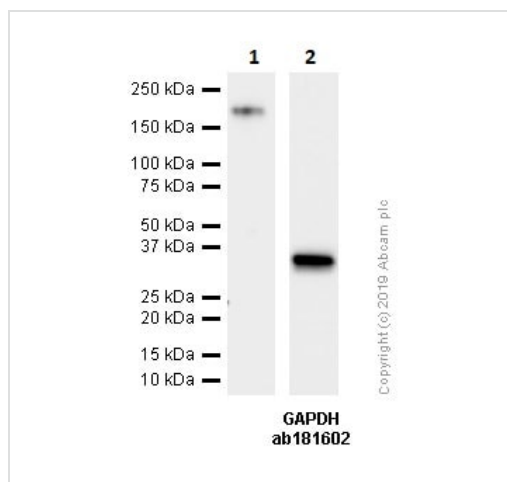
Panel B: anti-PR stained on nucleus of cancer cells.

Panel C: anti-HER2 stained on membrane of cancer cells.

Panel D: anti-ER stained on nucleus of cancer cells.

The section was incubated in three rounds of staining: in the order of **ab16661** for 30 mins, then **ab16660** and ab231438 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Lane 1 : Anti-ErbB2 / HER2 antibody [SP101] (ab231438)

Lane 2 : Anti-GAPDH antibody [EPR16891] - Loading Control (**ab181602**)

All lanes : SK-BR-3 (Human breast adenocarcinoma epithelial cell) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

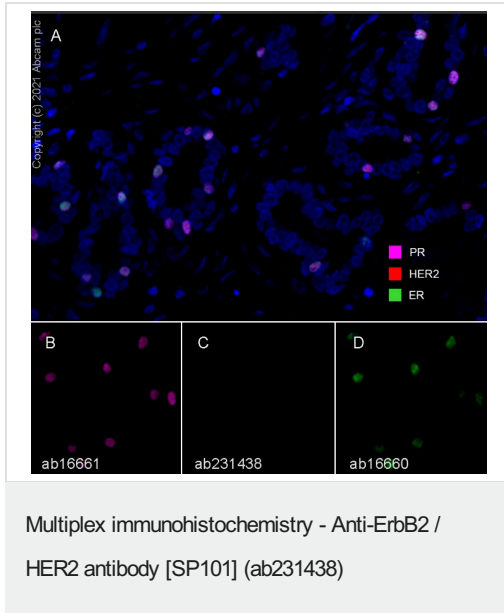
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 0.05 µg/ml

Predicted band size: 137 kDa

Observed band size: 180 kDa

Blocking/Diluting Buffer and concentration: 5% NFDM/TBST

ab231438 concentration is assay dependent.



Multiplex immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human mammary gland tissue sections labeling ErbB2 / HER2 with ab231438 at 1/100 dilution (1.59 µg/ml). Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins and Opal Polymer HRP Ms + Rb was used as the secondary antibody. DAPI was used as the nuclear counterstain.

Panel A: merged staining of anti-Progesterone Receptor (PR) (magenta; Opal™690), anti-HER2 (red; Opal™570) and anti-Estrogen Receptor (ER) (green; Opal™520) on human mammary gland.

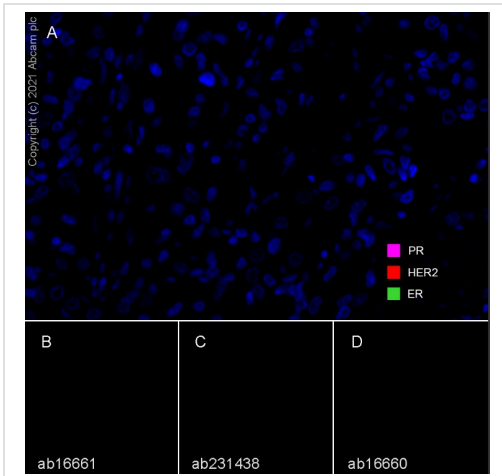
Panel B: anti-PR stained on nucleus of some ductal cells.

Panel C: anti-HER2 stained on no cells.

Panel D: anti-ER stained on nucleus of some ductal cells.

The section was incubated in three rounds of staining: in the order of **ab16661** for 30 mins, then **ab16660** and ab231438 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Multiplex immunohistochemistry - Anti-ErbB2 / HER2 antibody [SP101] (ab231438)

Panel A: merged staining of anti-Progesterone Receptor (PR) (magenta; Opal™690), anti-HER2 (red; Opal™570) and anti-Estrogen Receptor (ER) (green; Opal™520) on human triple-negative breast carcinoma.

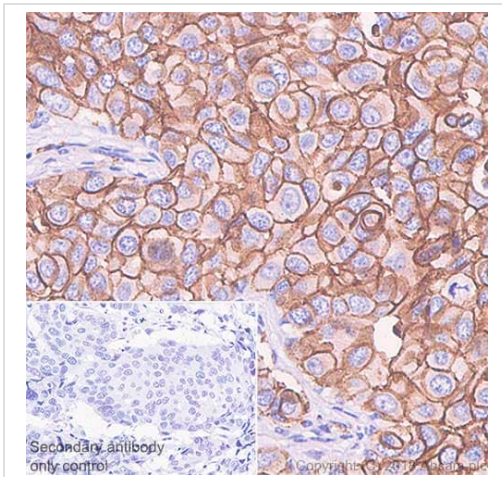
Panel B: anti-PR stained on no cells.

Panel C: anti-HER2 stained on no cells.

Panel D: anti-ER stained on no cells.

The section was incubated in three rounds of staining: in the order of **ab16661** for 30 mins, then **ab16660** and ab231438 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

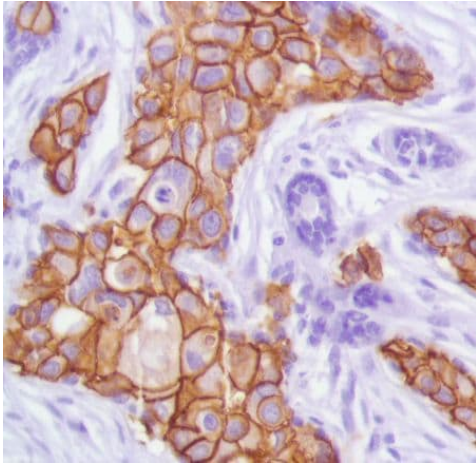
The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ErbB2 / HER2 antibody [SP101] (ab231438)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human breast carcinoma tissue sections labeling ErbB2 / HER2 with ab231438 at 1/100 dilution (6.38 µg/ml). Heat mediated antigen retrieval with Bond™ Epitope Retrieval Solution 1 (pH 6.0) for 10mins Goat Anti-Rabbit & Mouse IgG (HRP) was used as the secondary antibody. Hematoxylin was used as a counterstain. Membranous staining on the human breast carcinoma, performed on a Leica Biosystems BOND™ RX instrument.

The section was incubated with ab231438 for 30 mins at room temperature.



Formalin-fixed, paraffin-embedded human breast carcinoma tissue stained for ErbB2 / HER2 using ab231438 at 1/100 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ErbB2 / HER2 antibody [SP101] (ab231438)

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-ErbB2 / HER2 antibody [SP101] (ab231438)

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

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