abcam

ab201013

Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR19547
Purification technique	Affinity purification Protein A
Concentration	0.504 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information ERBB2 pY1248

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.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ErbB2 also known as HER2 and ErbB4 also known as HER4 are members of the ErbB family of receptor tyrosine kinases. ErbB2 has a molecular mass of about 185 kDa and lacks a natural ligand while ErbB4 weighs around 180 kDa and does bind to specific ligands. These receptors are mainly expressed in epithelial tissues including those found in the gastrointestinal tract respiratory system and skin. These receptors function as transmembrane proteins playing an important role in signal transduction processes by phosphorylating specific tyrosine residues upon dimerization.

Biological function summary	ErbB2 and ErbB4 serve significant roles in cellular processes such as cell growth differentiation and survival. ErbB2 typically forms heterodimers with other ErbB family members as it does not have an identified ligand. ErbB4 can function in both homo- and heterodimers. These complexes transmit signals inside the cell to influence transcription and other cellular responses. Their involvement is important for normal development and maintenance of various tissues.
Pathways	ErbB2 and ErbB4 participate in the PI3K/Akt and MAPK signaling pathways which are essential for mediating cellular responses like proliferation and survival. In these pathways they are closely related to proteins such as PI3K and Akt which are vital for transmitting and amplifying the signals initiated by ErbB receptor activation. These pathways ensure appropriate cellular responses to external stimuli and maintain cellular homeostasis.
Associated diseases and disorders	ErbB2 is strongly connected to breast cancer especially in cases where it is overexpressed leading to aggressive tumor growth. HER2 proteins are often the target for treatments in such cancers. ErbB4 shows a different profile and has been linked to heart development issues and schizophrenia. Both receptors interact with various ligands and other ErbB proteins during disease progression influencing prognosis and treatment options. Their distinct roles in different tissues explain their varied involvement in diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

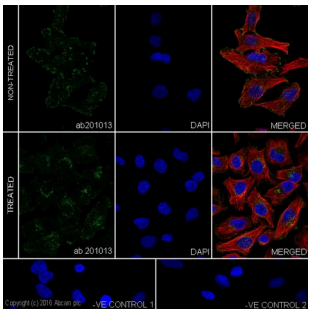
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images



Immunocytochemistry/ Immunofluorescence - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)

ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling ERBB2 (phospho Y1248) + ERBB4 (phospho Y1284) with ab201013 at 1/100 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Confocal image showing increased cytoplasmic staining after EGF treatment (200ng/ml; 30min).

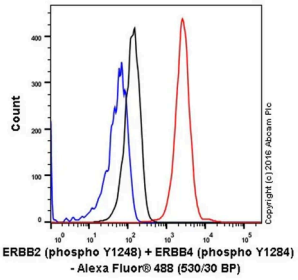
The nuclear counterstain is DAPI (blue).

Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed (ab150120) at 1/1000 dilution (red).

The negative controls are as follows:-

-ve control 1: ab201013 at 1/100 dilution followed by ab150120 at 1/1000 dilution.

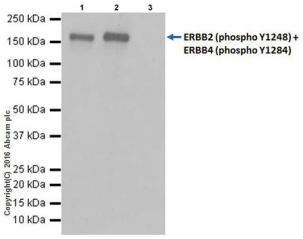
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)

ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) Flow Cytometry (Intracellular) staining using rabbit Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling ERBB2 (phospho Y1248) + ERBB4 (phospho Y1284) with ab201013 at 1/50 dilution (red) compared with a Rabbit IgG,monoclonal [EPR25A]-Isotype control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti Rabbit IgG (Alexa Fluorr® 488) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)

ERBB2 (phospho Y1248) + ERBB4 (phospho Y1284) were immunoprecipitated from 0.35 mg of A431 (Human epidermoid carcinoma cell line) whole cell lysate, starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes, with ab201013 at 1/30 dilution.
Western blot was performed from the immunoprecipitate using ab201013 at 1/500 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.

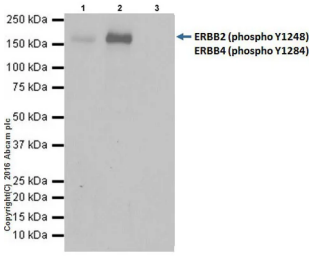
Lane 1: A431 whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes 10µg (Input).

Lane 2: ab201013 IP in A431 whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab201013 in A431 whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 1 second.
All lanes:
Immunoprecipitation - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)



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ERBB2 (phospho Y1248) + ERBB4 (phospho Y1284) were immunoprecipitated from 0.35 mg of HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate, starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes, with ab201013 at 1/30 dilution.
Western blot was performed from the immunoprecipitate using ab201013 at 1/500 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.

Lane 1: HeLa whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes 10µg (Input).

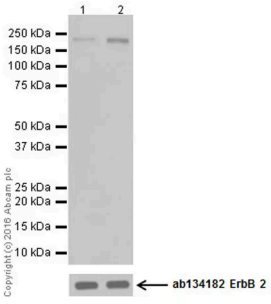
Lane 2: ab201013 IP in HeLa whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes.

Lane 3: Rabbit IgG,monoclonal [EPR25A]- Isotype Control (ab172730) instead of ab201013 in HeLa whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 1 second.

All lanes:
Immunoprecipitation - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)



Western blot - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)

ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) Western blot staining using rabbit Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody

Blocking/Diluting buffer 5% NFDM/TBST.
This target could be induced to increase by EGF that had be proved by literatures(PMID: 18945363; PMID: 17030621).

The MW is also consist with some literatures showed(PMID: 18180459)

All lanes:

Western blot - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013) at 1/5000 dilution

Lane 1:
Untreated SK-BR-3 (human mammary gland adenocarcinoma) whole cell lysate at 20 µg

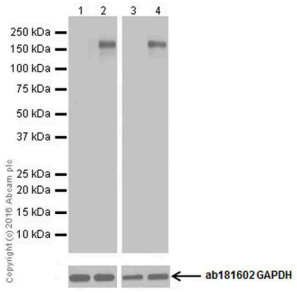
Lane 2:
SK-BR-3(human mammary gland adenocarcinoma) whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 180 kDa

Exposure time: 30s



Western blot - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)

ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) Western blot staining using rabbit Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1 and 2: 5 seconds; Lane 3 and 4: 10 seconds.

This target could be induced to increase by EGF as proved by literatures (PMID: 18945363; PMID: 17030621).

The MW is also consistent with some literatures (PMID: 18180459).

All lanes:
Western blot - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013) at 1/1000 dilution

Lane 1:
Untreated HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 2:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes at 20 µg

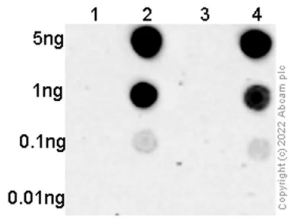
Lane 3:
Untreated A431 (Human epidermoid carcinoma cell line) whole cell lysate at 20 µg

Lane 4:
A431 (Human epidermoid carcinoma cell line) whole cell lysate starved 4 hours, then treated with 200 ng/ml EGF for 15 minutes at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 180 kDa



Dot Blot - Anti-ErbB2 / HER2 (phospho Y1248) + ErbB4 / HER4 (phospho Y1284) antibody [EPR19547] (ab201013)

Dot blot analysis using 1/1000 dilution ab201013 and Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) secondary at 1/100000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST

Lane 1: ErbB4 non-phospho peptide

Lane 2: ErbB4 Y1284 phospho peptide

Lane 3: ErbB2 non-phospho peptide

Lane 4: ErbB2 Y1248 phospho peptide

Exposure time: 3 minutes

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.