abcam

ab75873

Anti-ErbB2 / HER2 (phospho Y877) antibody [EPR2324Y]

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	EPR2324Y
Purification technique	Affinity purification Protein A
Dissociation constant	8.3 x 10^{-10} M
Concentration	0.104 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Synthetic peptide
Dilution info	-

Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	1/1000
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	1/500 - 1/1000
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Synthetic peptide
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Target data

See full target information ERBB2 pY877

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 conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	The ErbB2 also known as HER2 or HER2 protein is a transmembrane receptor protein with a molecular weight of about 185 kDa. It serves as part of the epidermal growth factor receptor (EGFR) family of receptor tyrosine kinases. The ErbB2 protein is expressed mainly in epithelial tissues including those of the breast and the gastrointestinal tract. It lacks a known ligand-binding domain which

	sets it apart from other members of its family. Due to its structure ErbB2 dimerizes with other members of the EGFR family to exert its effects in cellular signaling.
Biological function summary	The role of ErbB2 extends beyond a singular function. It becomes an active component when forming heterodimers with other EGFR family members such as ErbB3 to initiate various downstream signaling cascades. The dimerization activates intracellular pathways leading to cell proliferation survival differentiation and migration. Within cells ErbB2 influences processes critical for normal development and tissue homeostasis contributing significantly to signal transduction networks.
Pathways	ErbB2 plays a pivotal role in pathways such as the PI3K/Akt and MAPK/ERK pathways. These pathways are important in mediating cellular responses to growth signals. The PI3K/Akt pathway activated by HER2 signaling regulates cell growth and survival while the MAPK/ERK pathway contributes to cell differentiation and proliferation. ErbB2's interaction with proteins like ErbB3 is fundamental in these pathways increasing the amplitude and diversity of downstream signals.
Associated diseases and disorders	ErbB2 is significantly associated with breast cancer and gastric cancer. The overexpression or gene amplification of HER2 is observed in approximately 20% of breast cancer cases correlating with aggressive tumor growth and poor prognosis. ErbB2-related signaling contributes to oncogenic processes by promoting excessive cell proliferation. Targeting ErbB2 in these cancers is common using therapies such as monoclonal antibodies like trastuzumab. In the context of gastric cancer the role of ErbB2 mirrors its function in breast cancer and targeting HER2 holds therapeutic potential.

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

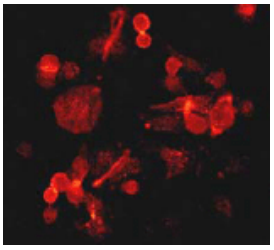
We do not recommend this combination. It is not covered by our product promise.

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.

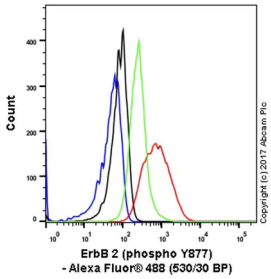
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-ErbB2 / HER2 (phospho Y877) antibody [EPR2324Y] (ab75873)

ErbB2 / HER2 (phospho Y877) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ErbB2 / HER2 (phospho Y877) antibody

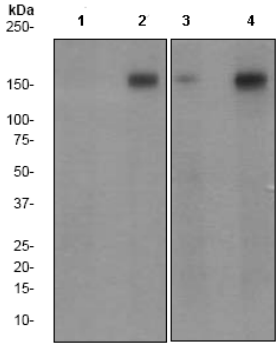
ab75873 at 1/50 dilution staining ErbB 2 in SKBR3 cells by Immunofluorescence.



Flow Cytometry (Intracellular) - Anti-ErbB2 / HER2 (phospho Y877) antibody [EPR2324Y] (ab75873)

ErbB2 / HER2 (phospho Y877) Flow Cytometry (Intracellular) staining using rabbit Anti-ErbB2 / HER2 (phospho Y877) antibody

Intracellular Flow Cytometry analysis of A431 (human epidermoid carcinoma) untreated/treated with 200 ng/ml EGF for 15 minutes labeling ErbB 2 with unpurified ab75873 at 1/20 (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat Anti-Rabbit IgG H&L (Alexa Fluorr® 488) (ab150077) (1/2000 dilution) was used as the secondary antibody. Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.



Western blot - Anti-ErbB2 / HER2 (phospho Y877) antibody [EPR2324Y] (ab75873)

ErbB2 / HER2 (phospho Y877) Western blot staining using rabbit Anti-ErbB2 / HER2 (phospho Y877) antibody

All lanes:
Western blot - Anti-ErbB2 / HER2 (phospho Y877) antibody [EPR2324Y] (ab75873) at 1/1000 dilution

Lane 1:
HeLa cell lysate, untreated at 10 µg

Lane 2:
HeLa cell lysate, treated with EGF at 10 µg

Lane 3:
SKBR-3 cell lysate, untreated at 10 µg

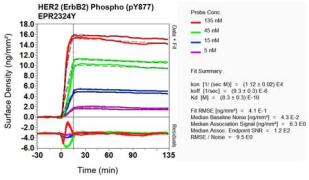
Lane 4:
SKBR-3 cell lysate, treated with EGF at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

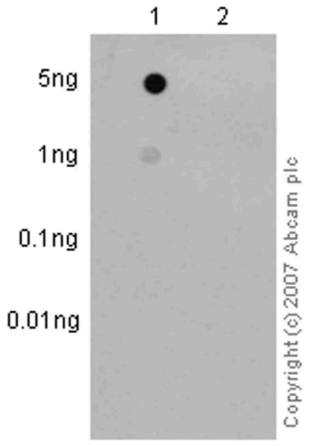
Predicted band size: 137 kDa

Observed band size: 180 kDa



OI-RD Scanning - Anti-ErbB2 / HER2 (phospho Y877) antibody [EPR2324Y] (ab75873)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.



Dot Blot - Anti-ErbB2 / HER2 (phospho Y877) antibody [EPR2324Y] (ab75873)

Dot blot analysis of ErbB 2 (pY877) peptide (Lane 1) and ErbB 2 non-phospho peptide (Lane 2) labelling ErbB 2 (phospho Y877) with ab75873 at a dilution of 1/1000. A Peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody at a dilution of 1/2500.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.

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