abcam

Product datasheet

Anti-ErbB2 / HER2 antibody [ICR12] - BSA and Azide free ab256130

Recombinant

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Overview

Product name	Anti-ErbB2 / HER2 antibody [ICR12] - BSA and Azide free
Description	Rat monoclonal [ICR12] to ErbB2 / HER2 - BSA and Azide free
Host species	Rat
Tested applications	**Suitable for:** IHC-P, ICC/IF, Flow Cyt **Unsuitable for:** IP or WB
Species reactivity	**Reacts with:** Human
Immunogen	Tissue, cells or virus. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Human breast carcinoma tissue. ICC/IF: SK-BR-3 cells. Flow Cyt: SK-BR-3 cells.
General notes	ab256130 is the carrier-free version of **ab11710**. This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact **orders@abcam.com**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Ion Exchange Chromatography
Clonality	Monoclonal
Clone number	ICR12
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab256130 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
IHC-P	★★★★★ (1)	1/400. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ICC/IF		1/100.
Flow Cyt		1/1000.

Application notes Is unsuitable for IP or WB.

Target

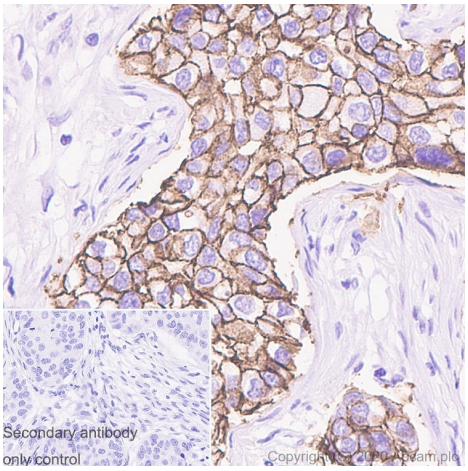
Function Protein tyrosine kinase that is part of several cell surface receptor complexes, but that apparently needs a coreceptor for ligand binding. Essential component of a neuregulin-receptor complex, although neuregulins do not interact with it alone. GP30 is a potential ligand for this receptor. 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



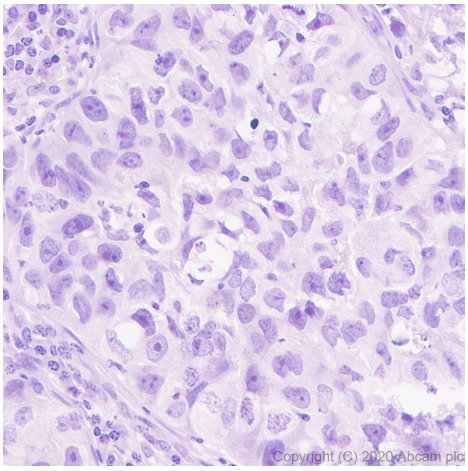
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ErbB2 / HER2 antibody [ICR12] - BSA and Azide free (ab256130)

Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue labeling ErbB2 / HER2 with **ab11710** at 1/400 dilution followed by ready to use Goat Anti-rat IgG H&L (HRP polymer) (**ab214882**). Membranous staining on human breast carcinoma. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is ready to use Goat Anti-rat IgG H&L (HRP polymer) (**ab214882**).

Heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide **ab11710**.



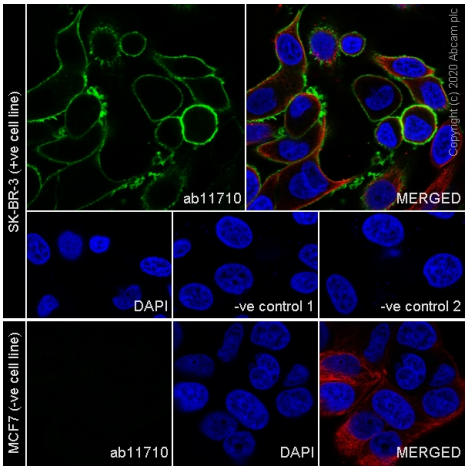
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ErbB2 / HER2 antibody [ICR12] - BSA and Azide free (ab256130)

Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue labeling ErbB2 / HER2 with **ab11710** at 1/400 dilution followed by ready to use Goat Anti-rat IgG H&L (HRP polymer) (**ab214882**). No staining on human breast carcinoma without expression of HER2 is observed. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is ready to use Goat Anti-rat IgG H&L (HRP polymer) (**ab214882**).

Heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide **ab11710**.



Immunocytochemistry/ Immunofluorescence - Anti-ErbB2 / HER2 antibody [ICR12] - BSA and Azide free (ab256130)

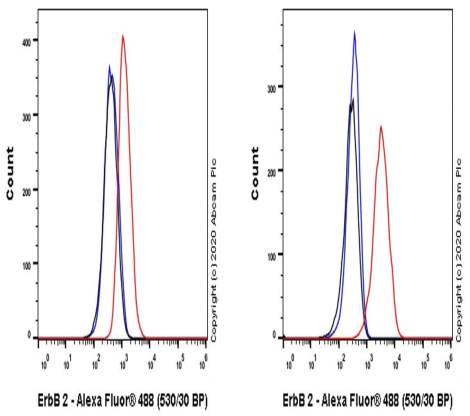
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized SK-BR-3 cells labelling EErbB2 / HER2 with **ab11710** at 1/100 dilution, followed by **ab150157** Goat Anti-rat IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing strong membranous staining in SK-BR-3 cells. **ab179513** Anti-beta Tubulin rabbit monoclonal antibody was used to counterstain tubulin at 1/200 dilution, followed by **ab150080** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) at a 1/1000 diliution (Red). The nuclear counterstain was DAPI (Blue).

Negative control 1: **ab11710** at 1/100 dilution followed by **ab150080** at a 1/1000 dilution.

Negative control 2: **ab179513** at a 1/200 dilution followed by **ab150157** at a 1/1000 dilution.

Negative control cells: MCF7 (PMID: 18288420).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide **ab11710**.



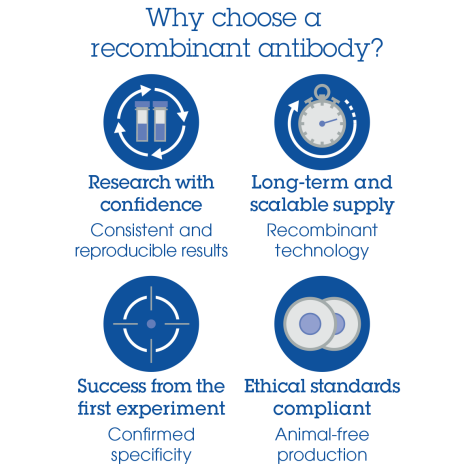
Flow Cytometry - Anti-ErbB2 / HER2 antibody [ICR12] - BSA and Azide free (ab256130)

Flow cytometric analysis of MCF7 (human breast adenocarcinoma epithelial cell, Left panel) / SK-BR-3 (human breast adenocarcinoma epithelial cell, Right panel) cells labelling ErbB2 / HER2 with **ab11710** at 1/1000 dilution (0.1µg) (Red) compared with a rat monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rat IgG (Alexa Fluor® 488, **ab150157**) at 1/2000 dilution was used as the secondary antibody.

Low expression control: MCF7. (PMID: 17938260).

Gated on viable cells.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide **ab11710**.



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