abcam

ab76303

Anti-ErbB4 / HER4 antibody [EP192Y]

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, 50% Tissue culture supernatant, 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	EP192Y
Purification technique	Affinity purification Protein A
Concentration	0.202 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/2000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information ERBB4

Function

Tyrosine-protein kinase that plays an essential role as cell surface receptor for neuregulins and EGF family members and regulates development of the heart, the central nervous system and the mammary gland, gene transcription, cell proliferation, differentiation, migration and apoptosis. Required for normal cardiac muscle differentiation during embryonic development, and for postnatal cardiomyocyte proliferation. Required for normal development of the embryonic central nervous system, especially for normal neural crest cell migration and normal axon guidance. Required for mammary gland differentiation, induction of milk proteins and lactation. Acts as cell-surface receptor for the neuregulins NRG1, NRG2, NRG3 and NRG4 and the EGF family members BTC, EREG and HBEGF. Ligand binding triggers receptor dimerization and autophosphorylation at specific tyrosine residues that then serve as binding sites for scaffold proteins and effectors. Ligand specificity and signaling is modulated by alternative splicing, proteolytic processing, and by the formation of heterodimers with other ERBB family members, thereby creating multiple combinations of intracellular phosphotyrosines that trigger ligand- and context-specific cellular responses. Mediates phosphorylation of SHC1 and activation of the MAP kinases MAPK1/ERK2 and MAPK3/ERK1. Isoform JM-A CYT-1 and isoform JM-B CYT-1 phosphorylate PIK3R1, leading to the activation of phosphatidylinositol 3-kinase and AKT1 and protect cells against apoptosis. Isoform JM-A CYT-1 and isoform JM-B CYT-1 mediate reorganization of the actin cytoskeleton and promote cell migration in response to NRG1. Isoform JM-A CYT-2 and isoform JM-B CYT-2 lack the phosphotyrosine that mediates interaction with PIK3R1, and hence do not phosphorylate PIK3R1, do not protect cells against apoptosis, and do not promote reorganization of the actin cytoskeleton and cell migration. Proteolytic processing of isoform JM-A CYT-1 and isoform JM-A CYT-2 gives rise to the corresponding soluble intracellular domains (4ICD) that translocate to the nucleus, promote nuclear import of STAT5A, activation of STAT5A, mammary epithelium differentiation, cell proliferation and activation of gene expression. The ERBB4 soluble intracellular domains (4ICD) colocalize with STAT5A at the CSN2 promoter to regulate transcription of milk proteins during lactation. The ERBB4 soluble intracellular domains can also translocate to mitochondria and promote apoptosis.

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

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	ErbB4 also known as HER4 is a member of the ErbB family of receptor tyrosine kinases. It functions mechanically as a transmembrane protein that activates downstream signaling pathways upon ligand binding. This receptor has an approximate mass of 180 kDa. You can find ErbB4 mainly expressed in the heart brain and various epithelial tissues. The ErbB4 protein often interacts with ligands such as Neuregulins heregulin and others.
Biological function summary	ErbB4 has several roles including the regulation of cell proliferation differentiation migration and development. It functions as part of a receptor complex initiating a cascade of intracellular signaling that impacts various cellular functions. ErbB4 ELISA assays often help quantify interactions and activities of the receptor providing insights into its broader functionalities. The ErbB4 protein also contributes to neuronal development and the maintenance of cardiac tissue integrity.
Pathways	ErbB4 participates in the PI3K/AKT pathway and the MAPK/ERK pathway essential for cell survival and proliferation. These pathways involve a network of proteins including other ErbB family members such as EGFR ErbB2 (HER2) and ErbB3 (HER3) forming heterodimers that enhance and diversify the signaling outcomes. E200 and HF R are often referred to in literature related to pathway analysis of these complex interactions.
Associated diseases and disorders	ErbB4 has links to several conditions notably certain cancers and schizophrenia. The connection to cancer arises due to its role in oncogenic signaling where it can form aberrant partnerships with proteins like ErbB2 which stimulates cell growth.

In schizophrenia alterations in ErbB4 expression or function may affect neural signaling pathways leading to cognitive deficits. Understanding these relationships helps to target therapies and develop treatments involving anti HER HF R 500 and similar inhibitors.

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

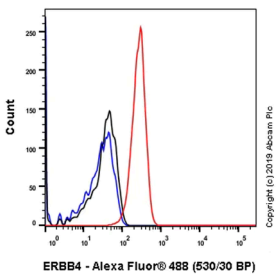
We do not recommend this combination. It is not covered by our product promise.

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.

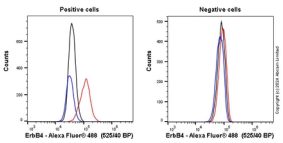
3 product images



Flow Cytometry (Intracellular) - Anti-ErbB4 / HER4 antibody [EP192Y] (ab76303)

ErbB4 / HER4 Flow Cytometry (Intracellular) staining using rabbit Anti-ErbB4 / HER4 antibody

Intracellular Flow Cytometry analysis of T47D (Human ductal breast epithelial tumor epithelial cell) cells labeling ErbB4 / HER4 with purified ab76303 at 1/20 dilution (7.5µg/ml) (Red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / blue.



Flow Cytometry (Intracellular) - Anti-ErbB4 / HER4 antibody [EP192Y] (ab76303)

ErbB4 / HER4 Flow Cytometry (Intracellular) staining of T-47D cells using rabbit Anti-ErbB4 / HER4 antibody

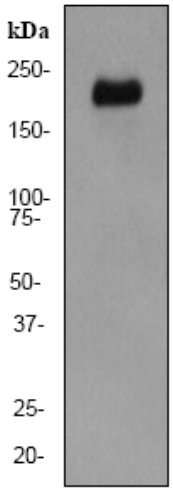
Flow cytometry overlay histogram showing left T-47D positive cells and right negative RCC4 stained with ab76303 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab76303) (1x 10^6in 100µl at 0.2µg/ml (1/2500)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody (black line) was Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

This antibody gave a positive signal in T-47D Fixed with 80% methanol (5 min) / permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.



Western blot - Anti-ErbB4 / HER4 antibody [EP192Y] (ab76303)

All lanes:
Western blot - Anti-ErbB4 / HER4 antibody [EP192Y] (ab76303) at 1/2000 dilution

All lanes:
human brain tissue lysate at 10 µg

Secondary

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

Predicted band size: 147 kDa

Observed band size: 185 kDa

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