abcam

ab204959

Anti-ErbB4 / HER4 antibody [5G6B4] - C-terminal

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human ERBB4 aa 1150 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link Q15303
Clone number	5G6B4
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Predicted

Species	Mouse
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	Blue Ice
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

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

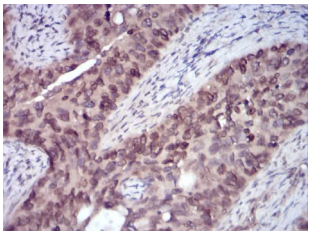
We do not recommend this combination. It is not covered by our product promise.

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.

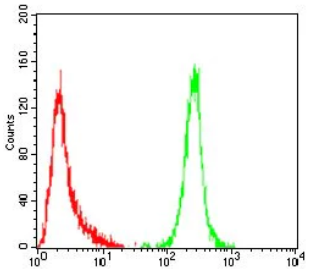
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ErbB4 / HER4 antibody [5G6B4] - C-terminal (ab204959)

ErbB4 / HER4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-ErbB4 / HER4 antibody

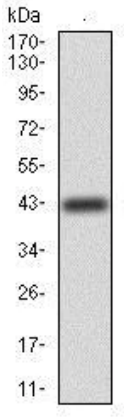
Immunohistochemical analysis of paraffin-embedded, DAB-stained human cervical cancer tissue, labeling ErbB4 / HER4 using ab204959 at a 1/200 dilution



Flow Cytometry - Anti-ErbB4 / HER4 antibody [5G6B4] - C-terminal (ab204959)

ErbB4 / HER4 Flow Cytometry staining using mouse Anti-ErbB4 / HER4 antibody

Flow cytometry analysis of HeLa cells labeling ErbB4 / HER4 (green) using ab204959 at a 1/200 dilution, and negative control cells (red).

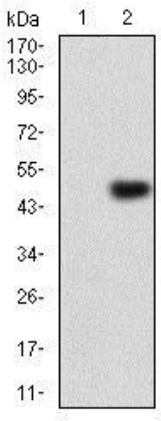


Western blot - Anti-ErbB4 / HER4 antibody [5G6B4] - C-terminal (ab204959)

(Expected MW is 43.3 kDa)
All lanes:
Western blot - Anti-ErbB4 / HER4 antibody [5G6B4] - C-terminal (ab204959) at 1/500 dilution

All lanes:
human ErbB 4 (amino acids 1159-1308) recombinant protein.

Predicted band size: 147 kDa



Western blot - Anti-ErbB4 / HER4 antibody [5G6B4] - C-terminal (ab204959)

All lanes:
Western blot - Anti-ErbB4 / HER4 antibody [5G6B4] - C-terminal (ab204959) at 1/500 dilution

Lane 1:
HEK293 cell lysate.

Lane 2:
Lysate from HEK293 cells transfected with ErbB 4 (amino acids 1159-1308)-hIgGFc.

Predicted band size: 147 kDa

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