abcam

ab106674

FITC Anti-ErbB2 / HER2 antibody [2D7]

Anti-ErbB2 / HER2 antibody [2D7] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [2D7] is a mouse monoclonal antibody cited in 30 publications.

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Key facts

Isotype	IgG
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.5% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human ERBB2. Database link P04626
Clone number	2D7
Purification technique	Size-exclusion chromatography
Concentration	0.101 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Expected

Species	Monkey
Dilution info	-
Notes	(leucocytes) in 100 Âµl of whole blood.

Species	Human
Dilution info	-
Notes	(leucocytes) in 100 ÂµL of whole blood.

Target data

See full target information ERBB2

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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

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.

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