10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Phospho-ERBB3(Y1289) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3708a

Product Information

Application	DB, WB, E
Primary Accession	P21860
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	148098

Additional Information

Gene ID	2065
Other Names	Receptor tyrosine-protein kinase erbB-3, Proto-oncogene-like protein c-ErbB-3, Tyrosine kinase-type cell surface receptor HER3, ERBB3, HER3
Target/Specificity	This ERBB3 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y1289 of human ERBB3.
Dilution	DB~~1:500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Phospho-ERBB3(Y1289) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ERBB3
Synonyms	HER3
Function	Tyrosine kinase receptor that, despite substitutions of key catalytic residues in the kinase domain, retains residual catalytic activity enabling autophosphorylation (PubMed:9148746, PubMed:20351256). Functions

primarily as a heterodimer, preferentially partnering with ERBB2/HER2, which phosphorylates ERBB3 on specific tyrosine residues and provides the kinase activity required for downstream signaling (PubMed:22983903). Binds neuregulins NRG1 and NRG2 through its extracellular domain, which induces conformational change from a tethered autoinhibited state to an extended conformation competent for dimerization (PubMed:20682778). Upon heterodimerization and trans-phosphorylation, acts as the most efficient activator of the PI3K/AKT pathway within the ErbB family (PubMed:22983903). Also activates the RAS/MAPK/ERK cascade to promote cell proliferation (PubMed:22983903). Plays an essential role in cardiac development; required for normal formation of the endocardial cushion and ventricular trabeculation during embryogenesis (Potential). Critical for peripheral nervous system development, where neuregulin-1/ERBB3 signaling drives Schwann cell survival, proliferation, and differentiation, and is required for axonal myelination (By similarity). Involved in epithelial morphogenesis and mammary gland development (By similarity). Also involved in the regulation of myeloid cell differentiation (PubMed:27416908). Participates in a regulatory feedback loop whereby pathway activation induces transcriptional up-regulation of ERBB3 expression (PubMed:21368164). Participates in vesicular sorting by stabilizing the ARF6-GGA3-RABEP1 endosomal sorting complex, to promote early recycling of TFRC and ITGB1 (PubMed:41348103). May also be activated by additional ligands including CSPG5 and EGFL6; the latter triggers assembly of an ERBB2/ERBB3/ITGB3 signaling complex leading to ERK phosphorylation and cell proliferation (PubMed:15358134, PubMed:41151154).

Cellular Location [Isoform 1]: Cell membrane; Single-pass type I membrane protein

Tissue Location Epithelial tissues and brain.

Background

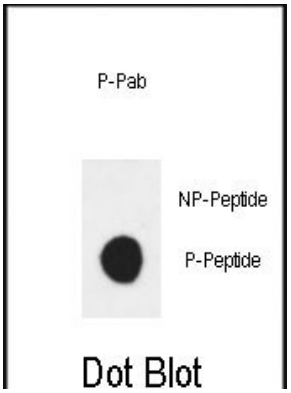
This gene encodes a member of the epidermal growth factor receptor (EGFR) family of receptor tyrosine kinases. This membrane-bound protein has a neuregulin binding domain but not an active kinase domain. It therefore can bind this ligand but not convey the signal into the cell through protein phosphorylation. However, it does form heterodimers with other EGF receptor family members which do have kinase activity. Heterodimerization leads to the activation of pathways which lead to cell proliferation or differentiation. Amplification of this gene and/or overexpression of its protein have been reported in numerous cancers, including prostate, bladder, and breast tumors. Alternate transcriptional splice variants encoding different isoforms have been characterized. One isoform lacks the intermembrane region and is secreted outside the cell. This form acts to modulate the activity of the membrane-bound form.

References

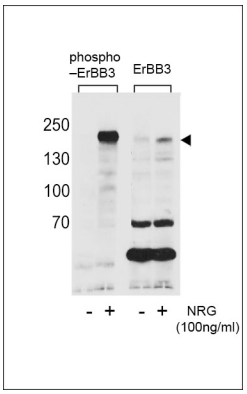
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Li, D., et al. World J. Biol. Psychiatry 10 (4 PT 2), 595-598 (2009)
Carr, E.J., et al. BMC Med. Genet. 10, 121 (2009)
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Images

Dot blot analysis of anti-Phospho-ERBB3 (Tyr1289) Antibody Phospho-specific Pab (Cat. #AP3708a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody



working concentrations are 0.5ug per ml.



Western blot analysis of extracts from T47D cells,untreated or treated with NRG using Phospho-ErBB3(Tyr1289)(left) or ErBB3 antibody(right).

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