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ERBB3 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7630a

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P21860
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	148098
Antigen Region	24-55

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 peptide between 24-55 amino acids from the N-terminal region of human ERBB3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	ERBB3 Antibody (N-term) 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

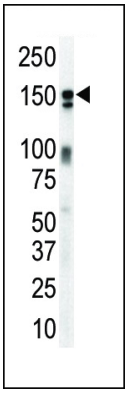
ErbB3, a member of the EGF receptor family, binds and is activated by neuregulins and NTAK. It potentially forms a heterodimer with each of the other ERBB receptors. This protein is predominantly expressed in epithelial tissues and brain. The cytoplasmic part of the receptor may interact with the SH2 or SH3 domains of many signal-transducing proteins. Ligand-binding may increase phosphorylation on tyrosine residues and promote its association with the p85 subunit of phosphatidylinositol 3-kinase ErbB3 is overexpressed in a subset of human mammary tumors.

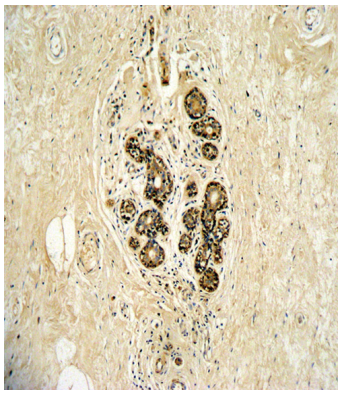
References

Katoh, M., et al., Biochem. Biophys. Res. Commun. 192(3):1189-1197 (1993). Plowman, G.D., et al., Proc. Natl. Acad. Sci. U.S.A. 87(13):4905-4909 (1990). Kraus, M.H., et al., Proc. Natl. Acad. Sci. U.S.A. 86(23):9193-9197 (1989).

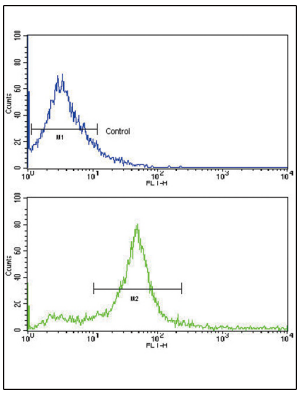
Images

Western blot analysis of anti-ErbB3 Pab (Cat. #AP7630a) in mouse brain lysate. ErbB3 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

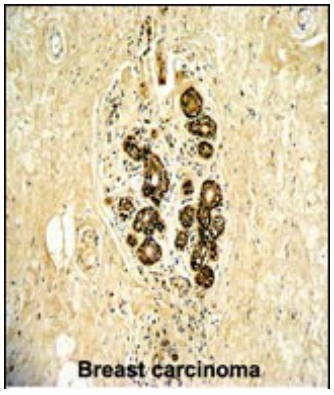




Formalin-fixed and paraffin-embedded human breast carcinoma with ErbB3 Antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

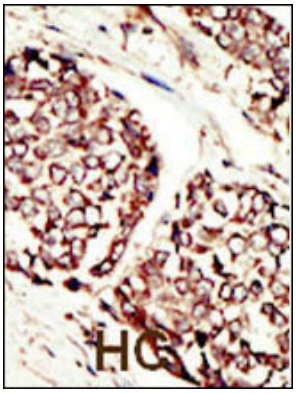


Flow cytometric analysis of 293 cells using ErbB3 Antibody (N-term) (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Formalin-fixed and paraffin-embedded human breast carcinoma with ErbB3 Antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Citations

- Preventive effects of heregulin-beta1 on macrophage foam cell formation and atherosclerosis.
- Neuregulin1-induced cell migration is impaired in schizophrenia: association with neuregulin1 and catechol-o-methyltransferase gene polymorphisms.
- High incidence of ErbB3, ErbB4, and MET expression in ovarian cancer.
- Charcot-Marie-Tooth disease-linked protein SIMPLE functions with the ESCRT machinery in endosomal trafficking.

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