

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ErbB4/Her4 in direct ELISAs and Western blots. In direct ELISAs, approximately 25% cross-reactivity with recombinant mouse ErbB4 is observed, and less than 1% cross-reactivity with recombinant human (rh) ErbB2, rhErbB3, and rhEGF R is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human ErbB4/Her4 Gln26-Arg649 Accession # Q15303
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

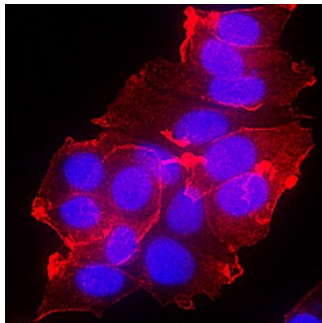
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the [Technical Information](#) section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human ErbB4/Her4 Fc Chimera (Catalog # 1131-ER)
Flow Cytometry	2.5 µg/10 ⁶ cells	MCF-7 human breast cancer cell line
Immunocytochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Immunocytochemistry



ErbB4/Her4 in MCF-7 Human Cell Line.
ErbB4/Her4 was detected in immersion fixed MCF-7 human breast cancer cell line using Goat Anti-Human ErbB4/Her4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1131) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to plasma membrane. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

ErbB4, also called Her4 (human epidermal growth factor receptor 4), is a type I membrane glycoprotein that is a member of the ErbB family of tyrosine kinase receptors. ErbB family members serve as receptors for the epidermal growth factor (EGF) family of growth factors. ErbB4 is expressed in normal skeletal muscle, heart, pituitary, brain, and several breast carcinomas. ErbB4 ligands include the neuregulins, beta-cellulin and heparin-binding EGF-like growth factor (HB-EGF). Monomeric ErbB4 binds its ligands with low affinity. Typically, heterodimerization with ErbB2 forms the high affinity receptor complex. However, ErbB4 has also been shown to heterodimerize with both ErbB1 and ErbB3. It has been suggested that the identity of the ligand may influence the dimerization partner. Because ErbB3 contains a defective kinase domain, the kinase domain of ErbB2 is responsible for initiating the tyrosine phosphorylation signal through the heterodimeric receptor. It has been found that a discrete three amino acid (aa) signal in the ErbB3 cytoplasmic domain is critical for transactivation of ErbB2. Interestingly, this same three amino acid signal has been found in ErbB4 and ErbB1 (EGF R). Several ErbB4 isoforms exist. Two of these differ in the presence of juxtamembrane extracellular sequences which regulate the ability of TACE (TNF- α converting enzyme) to proteolytically cleave ErbB4 from the cell surface. These isoforms exhibit tissue-specific expression. Another isoform lacks the phosphoinositide 3-kinase activation sequence present in the ErbB4 cytoplasmic domain. Human ErbB4 consists of 1308 amino acids with a 25 aa signal sequence, a 626 aa extracellular domain, a 24 aa transmembrane region, and a 633 aa cytoplasmic domain. ErbB4 appears to play important roles in neuronal development, development of the heart and cancer.

References:

1. Plowman, G.D. *et al.* (1993) *Proc. Natl. Acad. Sci. USA* **90**:1746.
2. Elenius, K. *et al.* (1997) *J. Biol. Chem.* **272**:26761.
3. Elenius, K. *et al.* (1999) *Oncogene* **18**:2607.
4. Rio, C. *et al.* (2000) *J. Biol. Chem.* **275**:10379.
5. Emkey, R. and C.R. Kahn (1997) *J. Biol. Chem.* **272**:31172.
6. Sundaresan, S. *et al.* (1998) *Endocrinology* **139**:4756.
7. Schaefer, G. *et al.* (1999) *J. Biol. Chem.* **274**:859.
8. Schlessinger, J. (2000) *Cell* **103**:211.
9. Daly, R.J. (1999) *Growth Factors* **16**:255.