

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ErbB4/Her4 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) EGF R, rhErbB2, or rhErbB3 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 182818
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human ErbB4/Her4 Glu26-Arg649 Accession # Q15303
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	MCF-7 human breast cancer cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

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. 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, ADAM17) 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 (aa) 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.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc. and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.