

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                         |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human ErbB4/Her4 in direct ELISAs.                                                    |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Goat IgG                                                                           |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                     |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human ErbB4/Her4<br>Ala1027-Pro1292<br>Accession # Q15303 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm               |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                  |
| *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.

|                           |                                                                        |
|---------------------------|------------------------------------------------------------------------|
| <b>Knockout Validated</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>       | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | 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. 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.

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