# Human ErbB4/Her4 Antibody

Monoclonal Mouse $IgG_{2B}$ Clone # 918903

Catalog Number: MAB11312

## DESCRIPTION

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|---|---|
| **Species Reactivity** | Human |
| **Specificity** | Detects human ErbB4/Her4 in direct ELISAs. |
| **Source** | Monoclonal Mouse $IgG_{2B}$ Clone # 918903 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | Mouse myeloma cell line NS0-derived recombinant human ErbB4/Her4<br>Gln26-Arg649<br>Accession # Q15303 |
| **Endotoxin Level** | <0.10 EU per 1 µg of the antibody by the LAL method. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*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.*

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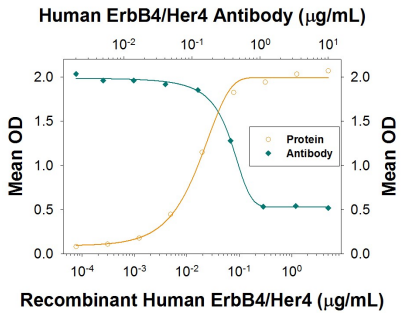
| **Blockade of Receptor-ligand Interaction** | In a functional ELISA, 0.2-1 µg/mL of Mouse Anti-Human ErbB4/Her4 Monoclonal Antibody (Catalog # MAB11312) will block 50% of the binding of 100 ng/mL of Recombinant Human ErbB4/Her4 Fc Chimera (Catalog # 1131-ER) to immobilized Recombinant Human Recombinant Human NRG1-β1/HRG1-β1 Extracellular Domain (Catalog # 377-HB) coated at 100 ng/mL (100 µL/well). At 5 µg/mL, this antibody will block 75% of the binding. |

## DATA

**Blockade of Receptor-ligand Interaction**




**ErbB4/Her4 binding to NRG1-β1/HRG1-β1 blocked by Human ErbB4/Her4 Antibody.** In a functional ELISA, Recombinant Human ErbB4/Her4 Fc Chimera (Catalog # 1131-ER) binds to immobilized Recombinant Human NRG1-β1/HRG1-β1 Extracellular Domain (Catalog # 377-HB) coated at 100 ng/mL (100 µL/well) in a dose-dependent manner (orange line). Binding is blocked (green line) by increasing concentrations of Mouse Anti-Human NRG1-β1/HRG1-β1 Monoclonal Antibody (Catalog # MAB11312). At 5 µg/mL, this antibody will block >75% of the binding.

## PREPARATION AND STORAGE

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| **Reconstitution** | Reconstitute at 0.5 mg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*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.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |



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# Human ErbB4/Her4 Antibody

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## 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, β-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:**

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