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| <b>Product name:</b>     | Neu (phospho Tyr1112) Rabbit Polyclonal Antibody  |
| <b>Cat number:</b>       | ABN05075  |
| <b>Conjugate:</b>        | Unconjugated  |
| <b>Size:</b>             | 100µL   |
| <b>Clone:</b>            | Polyclonal  |
| <b>Concentration:</b>    | 1mg/ml  |
| <b>Host:</b>             | Rabbit  |
| <b>Isotype:</b>          | IgG   |
| <b>Immunogen:</b>        | The antiserum was produced against synthesized peptide derived from human HER2 around the phosphorylation site of Tyr1112. AA range:1081-1130 |
| <b>Reactivity:</b>       | Human,Mouse,Rat   |
| <b>Applications:</b>     | WB 1:500-1:2000,ELISA 1:5000-1:20000  |
| <b>Molecular Weight:</b> | 180kDa  |
| <b>Purification:</b>     | Affinity purification   |
| <b>Form:</b>             | Liquid  |
| <b>Buffer:</b>           | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.  |
| <b>Storage:</b>          | Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.  |

**Background:**

This gene encodes a member of the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. This protein has no ligand binding domain of its own and therefore cannot bind growth factors. However, it does bind tightly to other ligand-bound EGF receptor family members to form a heterodimer, stabilizing ligand binding and enhancing kinase-mediated activation of downstream signalling pathways, such as those involving mitogen-activated protein kinase and phosphatidylinositol-3 kinase. Allelic variations at amino acid positions 654 and 655 of isoform a (positions 624 and 625 of isoform b) have been reported, with the most common allele, Ile654/Ile655, shown here. Amplification and/or overexpression of this gene has been reported in numerous cancers, including breast and ovarian tumors. Alternative splicing results in several additional transcript variants, some encoding catalytic activity:  $ATP + a [protein]-L\text{-tyrosine} = ADP + a [protein]-L\text{-tyrosine phosphate}$ . Disease: Defects in ERBB2 are associated with familial glioma of brain [MIM:137800]; also called glioblastoma multiforme. Gliomas are central nervous system neoplasms derived from glial cells and comprise astrocytomas, glioblastoma multiforme, oligodendrogliomas, and ependymomas. Disease: Defects in ERBB2 are associated with gastric cancer [MIM:137215]; also known as hereditary familial diffuse gastric cancer (HDGC). Disease: Defects in ERBB2 are associated with lung cancer [MIM:211980]; also called adenocarcinoma of lung. Disease: Defects in ERBB2 are associated with ovarian cancer [MIM:167000]. Ovarian cancer is the leading cause of death from gynecologic malignancy. It is characterized by advanced presentation with loco-regional dissemination in the peritoneal cavity and the rare incidence of visceral metastases. These typical features relate to the biology of the disease, which is a principal determinant of outcome. Function: Essential component of a neuregulin-receptor complex, although neuregulins do not interact with it alone. GP30 is a potential ligand for this receptor. Not activated by EGF, TGF- $\alpha$  and amphiregulin. Online information: ERBB2 entry, polymorphism: There are four alleles due to the variations in positions 654 and 655. Allele B1 (Ile-654/Ile-655) has a frequency of 0.782; allele B2 (Ile-654/Val-655) has a frequency of 0.206; allele B3 (Val-654/Val-655) has a frequency of 0.012. PTM: Ligand-binding increases phosphorylation on tyrosine residues. Similarity: Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily. Similarity: Contains 1 protein kinase domain. Subunit: Heterodimer with each of the other ERBB receptors (Potential). Interacts with PRKCABP and PLXNB1. Part of a complex with EGFR and either PIK3C2A or PIK3C2B. May interact with PIK3C2B when phosphorylated on Tyr-1196. Interacts with MEMO when phosphorylated on Tyr-1248. Interacts with MUC1. Stimulation by heregulin (HRG) in breast cancer cell lines induces binding of MUC1 with gamma-catenin.