

# Phospho-HER2/ErbB2 (Tyr1112) Antibody



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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|-----------|-----------------|-------------|-----------------|
| 185       | Rabbit          | #P04626     | 2064            |

|                                |   |
|--------------------------------|---|
| <b>Storage</b>                 | Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.  |
| <b>Specificity/Sensitivity</b> | Phospho-HER2/ErbB2 (Tyr1112) Antibody detects ErbB2 only when activated by phosphorylation at Tyr1112. This antibody may cross-react with other activated ErbB family members (e.g. EGF receptor).  |
| <b>Source / Purification</b>   | Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding tyrosine 1112 of human ErbB2. Antibodies are purified by protein A and peptide affinity chromatography.  |
| <b>Background</b>              | The ErbB2 (HER2) proto-oncogene encodes a 185 kDa transmembrane, receptor-like glycoprotein with intrinsic tyrosine kinase activity (1). While ErbB2 lacks an identified ligand, ErbB2 kinase activity can be activated in the absence of a ligand when overexpressed and through heteromeric associations with other ErbB family members (2). Amplification of the <i>ErbB2</i> gene and overexpression of its product are detected in almost 40% of human breast cancers (3). Binding of the c-Cbl ubiquitin ligase to ErbB2 at Tyr1112 leads to ErbB2 poly-ubiquitination and enhances degradation of this kinase (4). ErbB2 is a key therapeutic target in the treatment of breast cancer and other carcinomas and targeting the regulation of ErbB2 degradation by the c-Cbl-regulated proteolytic pathway is one potential therapeutic strategy. Phosphorylation of the kinase domain residue Tyr877 of ErbB2 (homologous to Tyr416 of pp60c-Src) may be involved in regulating ErbB2 biological activity. The major autophosphorylation sites in ErbB2 are Tyr1248 and Tyr1221/1222; phosphorylation of these sites couples ErbB2 to the Ras-Raf-MAP kinase signal transduction pathway (1,5). |
| <b>Background References</b>   | <ol style="list-style-type: none"> <li>1. Muthuswamy, S.K. et al. (1999) <i>Mol Cell Biol</i> 19, 6845-57.</li> <li>2. Qian, X. et al. (1994) <i>Proc Natl Acad Sci USA</i> 91, 1500-4.</li> <li>3. Dittadi, R. and Gion, M. (2000) <i>J Natl Cancer Inst</i> 92, 1443-4.</li> <li>4. Klapper, L.N. et al. (2000) <i>Cancer Res</i> 60, 3384-8.</li> <li>5. Kwon, Y.K. et al. (1997) <i>J Neurosci</i> 17, 8293-9.</li> </ol>   |

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| <b>Species Reactivity</b>     | Species reactivity is determined by testing in at least one approved application (e.g., western blot).  |
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