HER2/ErbB2 Antibody

For Research Use Only. Not For Use In Diagnostic Procedures.

**Background:** 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 ErbB2 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).

**Specificity/Sensitivity:** HER2/ErbB2 Antibody detects endogenous levels of total ErbB2 protein. The antibody does not cross-react with related kinases.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Tyr1222 of human ErbB2. Antibodies are purified by protein A and peptide affinity chromatography.

**Background References:**

**Storage:** 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.

**Recommended Antibody Dilutions:**
Western Blotting 1:1000
Immunohistochemistry (Paraffin) 1:50
Unmasking buffer: EDTA
Antibody diluent: SignalStain Antibody Diluent #8112

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Western blot analysis of extracts from MCF-7 and SKBR3 cells using HER2/ErbB2 Antibody.


**IMPORTANT:** For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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Immunohistochemical analysis of paraffin-embedded cell lines expressing various levels of Her2, SK-BR-3 - high (left), MDA-MB-453 - medium (middle) and MDA-MB-468 - low (right), using HER2/ErbB2 Antibody.