

#2249 Store at -20°C

Phospho-HER2/ErbB2 (Tyr1221/1222) Antibody

100 µl
 (10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H	185 kDa	Rabbit**

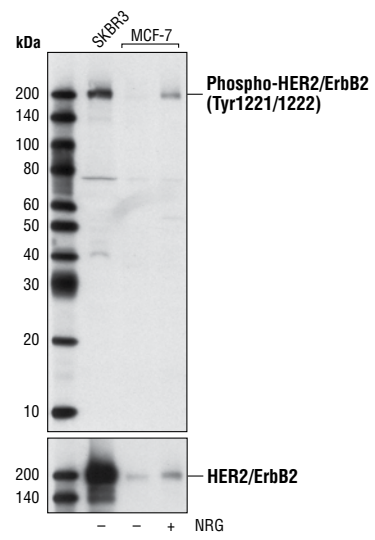
Background: The ErbB2 (HER2) proto-oncogene encodes a 185 kDa transmembrane, receptor-like glycoprotein with intrinsic tyrosine kinase activity (1). While ErbB2 lacks an identified ligand, ErbB2 kinase activity can be activated in the absence of a ligand when overexpressed and through heteromeric associations 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: Phospho-HER2/ErbB2 (Tyr1221/1222) Antibody detects endogenous levels of ErbB2 only when phosphorylated at tyrosine 1221/1222. The antibody may detect other activated Erb family members.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding tyrosine 1221/1222 of human ErbB2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Muthuswamy, S.K. et al. (1999) *Mol. Cell. Biol.* 19, 6845–6857.
- (2) Qian, X. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 1500–1504.
- (3) Dittadi, R. and Gion, M. (2000) *J. Natl. Cancer Inst.* 92, 1443–1444.
- (4) Klapper, L.N. et al. (2000) *Cancer Res.* 60, 3384–3388.
- (5) Kwon, Y.K. et al. (1997) *J. Neurosci.* 17, 8293–8299.



Western blot analysis of extracts from untreated SKBR3 and MCF-7 cells, untreated or treated with neuregulin (NRG), using Phospho-HER2/ErbB2 (Tyr1221/1222) Antibody (upper) and HER2/ErbB2 Antibody #2242 (lower).

Entrez-Gene ID #P04626
Swiss-Prot Acc. #2064

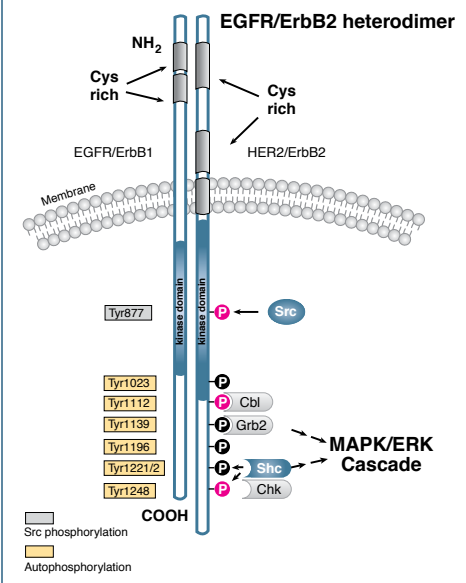
Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity is determined by western blot.**
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:
 Western blotting 1:1000

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.



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.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.