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Phospho-HER2/ErbB2 (Tyr1221/1222) (6B12) Rabbit mAb

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

Applications: W, IHC-P	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 185	Source/Isotype: Rabbit IgG	UniProt ID: #P04626	Entrez-Gene Id: 2064
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Product Usage Information

Application

Western Blotting
Immunohistochemistry (Paraffin)

Dilution

1:1000
1:160 - 1:640

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #91415.

Specificity/Sensitivity

Phospho-HER2/ErbB2 (Tyr1221/1222) (6B12) Rabbit mAb detects endogenous levels of ErbB2 only when phosphorylated at tyrosines 1221/1222. The antibody does not detect other activated Erb family members or other tyrosine-phosphorylated proteins.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding tyrosines 1221/1222 of human ErbB2 protein.

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).

Background References

1. Muthuswamy, S.K. et al. (1999) *Mol Cell Biol* 19, 6845-57.
2. Qian, X. et al. (1994) *Proc Natl Acad Sci USA* 91, 1500-4.
3. Dittadi, R. and Gion, M. (2000) *J Natl Cancer Inst* 92, 1443-4.
4. Klapper, L.N. et al. (2000) *Cancer Res* 60, 3384-8.
5. Kwon, Y.K. et al. (1997) *J Neurosci* 17, 8293-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: Human

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