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HER2/ErbB2 Blocking Peptide

☑ 100 µg

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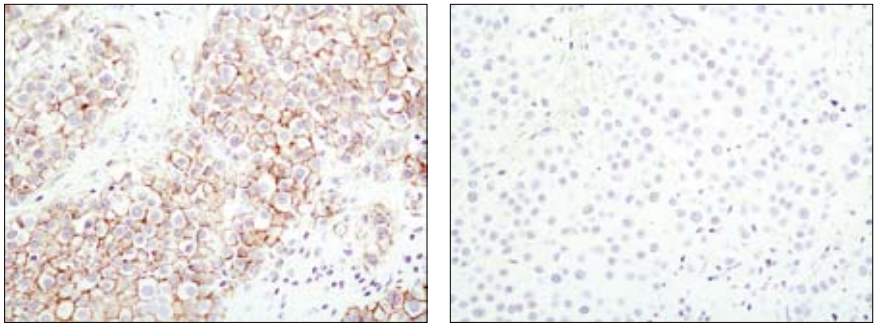

Immunohistochemical analysis of paraffin-embedded human breast carcinoma using HER2/ErbB2 (29D8) Rabbit mAb #2165 in the presence of control peptide (left) or HER2/ErbB2 Blocking Peptide (right).

Description: This peptide is used to block HER2/ErbB2 (29D8) Rabbit mAb #2165 reactivity in immunohistochemistry protocols.

Background: The ErbB2 (HER2) proto-oncogene encodes a transmembrane receptor-like glycoprotein of 185 kDa with intrinsic tyrosine kinase activity (1). ErbB2 does not have any known ligand. However, the kinase activity of ErbB2 can be activated without ligand if it is overexpressed and by heteromeric association with other members of the ErbB family (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 Tyr1112 of ErbB2 leads to poly-ubiquitination of ErbB2 and enhances its degradation (4). ErbB2 is one of the major targets for the treatment of breast cancer and other carcinomas. Direction of ErbB2 to the c-Cbl-regulated proteolytic pathway may have therapeutic potential.

Tyr877 of ErbB2 is homologous to Tyr416 of pp60c-Src, located in the kinase domain. Phosphorylation of this site may be involved in regulation of ErbB2 biological activity. Tyr1248 and Tyr1221/1222 are the major autophosphorylation sites in ErbB2. Phosphorylation of these sites couples ErbB2 to the Ras-Raf-MAP kinase signal transduction pathway (1,5).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks HER2/ErbB2 (29D8) Rabbit mAb #2165 signal in immunohistochemistry.

Directions for Use: For immunohistochemistry, add twice the volume of peptide as volume of antibody used in 100 µl total volume. Incubate for a minimum of 30 minutes prior to adding the entire volume to the slide. Recommended antibody dilutions can be found on the product data sheet.

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.

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. Store at –20°C.

Companion Products:

HER2/ErbB2 (29D8) Rabbit mAb #2165

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **IC**—Immunocytochemistry **IF**—Immunofluorescence **F**—Flow cytometry **E**—ELISA **D**—DELFIA®

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **X**—Xenopus **Z**—zebra fish **B**—bovine **All**—all species expected

Species enclosed in parentheses are predicted to react based on 100% sequence homology.