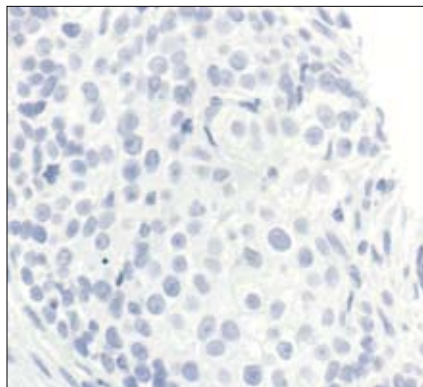
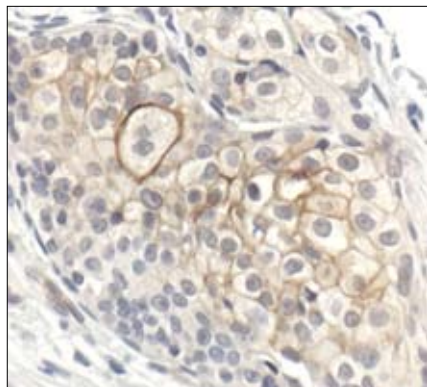


# Phospho-HER3/ErbB3 (Tyr1289) Blocking Peptide

✓ 100 µg

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Immunohistochemical analysis of paraffin-embedded human lung carcinoma using Phospho-HER3/ErbB3 (Tyr1289) (21D3) Rabbit mAb #4791 (left) or the same antibody preincubated with Phospho-HER3/ErbB3 (Tyr1289) (21D3) Blocking Peptide (right).

**Background:** HER3/ErbB3 is a member of the ErbB receptor protein tyrosine kinase family, but lacks tyrosine kinase activity. Tyrosine phosphorylation of ErbB3 depends on its association with other ErbB tyrosine kinases. Upon ligand binding, heterodimers form between ErbB3 and other ErbB proteins and ErbB3 is phosphorylated on tyrosine residues by the activated ErbB kinase (1,2). There are at least 9 potential tyrosine phosphorylation sites in the carboxy terminal tail of ErbB3. These sites serve as consensus binding sites for signal transducing proteins, including Src family members, Grb2 and the p85 subunit of PI3 kinase, which mediate ErbB-downstream signaling (3). Both Tyr1222 and Tyr1289 of ErbB3 reside within a YXXM motif and participate in signaling to PI3 kinase (4).

ErbB3 is highly expressed in many cancer cells (5) and activation of ErbB3-PI3 kinase pathway is correlated with malignant phenotypes of adenocarcinomas (6). In tumor development, ErbB3 may function as an oncogenic unit together with other ErbB members, e.g. ErbB2 requires ErbB3 to drive breast tumor cell proliferation (7). Thus, prevention of the interaction of ErbB3 with other ErbB tyrosine kinases has become a novel anti-tumor strategy.

**Description:** This peptide is used to block Phospho-HER3/ErbB3 (Tyr1289) (21D3) Rabbit mAb #4791 reactivity.

**Quality Control:** The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks Phospho-HER3/ErbB3 (Tyr1289) (21D3) Rabbit mAb #4791 signal in immunohistochemistry.

**Applications:** Use as a blocking reagent to evaluate the specificity of antibody reactivity in immunohistochemistry protocols.

**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 Phospho-HER3/ErbB3 (Tyr1289)(21D3) Rabbit mAb #4791 data sheet.

**Background References:**

- (1) Yarden, Y. and Sliwkowski, M.X. (2001) *Nature Rev. Mol. Cell. Biol.* 2, 127–137.
- (2) Guy, P.M. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 8132–8136.
- (3) Songyang, Z. et al. (1993) *Cell* 72, 767–778.
- (4) Kim, H.H. et al. (1994) *J. Biol. Chem.* 269, 24747–24755.
- (5) Sithanandam, G. et al. (2003) *Carcinogenesis* 24, 1581–1592.
- (6) Kobayashi, M. et al. (2003) *Oncogene* 22, 1294–1301.
- (7) Holbro, T. et al. (2003) *Proc. Natl. Acad. Sci. USA* 100, 8933–8938.

**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:**

Phospho-HER3/ErbB3 (Tyr1289) (21D3) Rabbit mAb #4791