

Phospho-HER3/ErbB3 (Tyr1289) Blocking Peptide

✓ 100 µg



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rev. 05/24/17

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

Background: HER3/ErbB3 is a member of the ErbB receptor protein tyrosine kinase family, but it 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 PI3K (4).

Investigators have found that ErbB3 is highly expressed in many cancer cells (5) and activation of the ErbB3/PI3K pathway is correlated with malignant phenotypes of adenocarcinomas (6). Research studies have demonstrated that 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, investigators view inhibiting interaction between ErbB3 and ErbB tyrosine kinases as a novel strategy for anti-tumor therapy.

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 peptide dot blot.

Directions for Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. 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. 1% DMSO. Store at -20°C.

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

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