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EGF Receptor Blocking Peptide

☑100 µg

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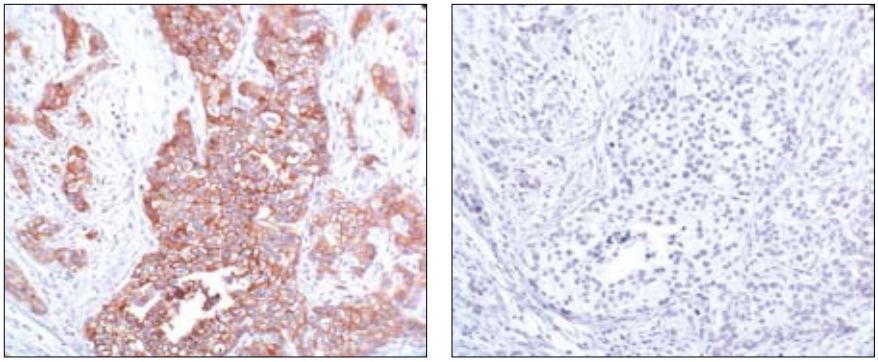

Immunohistochemical analysis of paraffin-embedded human breast carcinoma, using EGF Receptor (15F8) Rabbit mAb preincubated with an irrelevant control peptide (left) or the same antibody preincubated with EGF Receptor Blocking Peptide (right).

Background: The epidermal growth factor (EGF) receptor is a 170 kDa transmembrane tyrosine kinase and member of the HER/ErbB protein family. Ligand binding results in receptor dimerization, autophosphorylation, activation of downstream signaling and lysosomal degradation (1,2). Phosphorylation of EGF receptor (EGFR) at Tyr845 in the kinase domain is implicated in stabilizing the activation loop, maintaining the active state enzyme and providing a binding surface for substrate proteins (3,4). c-Src is involved in phosphorylation of EGFR at Tyr845 (5). The SH2 domain of PLCγ binds at phospho-Tyr992, resulting in activation of PLCγ-mediated downstream signaling (6). Phosphorylation of Tyr1045 creates a major docking site for c-Cbl, an adaptor protein that leads to receptor ubiquitination and degradation following EGFR activation (7,8). The GRB2 adaptor protein binds activated EGFR at phospho-Tyr1068 (9). A pair of phosphorylated residues (Tyr1148 and Tyr1173) provide a docking site for the SHC scaffold protein, with both sites involved in MAP kinase signaling activation (2). Phosphorylation of EGFR at specific serine and threonine residues attenuates EGFR kinase activity. EGFR carboxy terminal residues Ser1046 and Ser1047 are phosphorylated by CaM kinase II; mutations to either of these serines upregulate EGFR tyrosine autokinase activity (10).

Description: This peptide can be used to block EGF Receptor (15F8) Rabbit mAb #4405

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks EGF Receptor (15F8) Rabbit mAb #4405 signal completely 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 a 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 EGF Receptor (15F8) Rabbit mAb #4405 data sheet.

Background References:

(1) Hackel, P.O. et al. (1999) *Curr. Opin. Cell Biol.* 11, 184–189.

(2) Zwick, E. et al. (1999) *Trends Pharmacol. Sci.* 20, 408–412.

(3) Cooper, J.A. and Howell, B. (1993) *Cell* 73, 1051–1054.

(4) Hubbard, S.R. et al. (1994) *Nature* 372, 746–754.

(5) Biscardi, J.S. et al. (1999) *J. Biol. Chem.* 274, 8335–8343.

(6) Emlet, D.R. et al. (1997) *J. Biol. Chem.* 272, 4079–4086.

(7) Levkowitz, G. et al. (1999) *Mol. Cell* 4, 1029–1040.

(8) Ettenberg, S.A. et al. (1999) *Oncogene* 18, 1855–1866.

(9) Rojas, M. et al. (1996) *J. Biol. Chem.* 271, 27456–27461.

(10) Feinmesser, R.L. et al. (1999) *J. Biol. Chem.* 274, 16168–16173.

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.

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