EGF Receptor Antibody

For Research Use Only. Not For Use In Diagnostic Procedures.

**Background:** The epidermal growth factor (EGF) receptor is a 170 kDa transmembrane tyrosine kinase that belongs to the HER/ErbB protein family. Ligand binding results in receptor dimerization, autophosphorylation, activation of downstream signaling, internalization and lysosomal degradation (1,2). Phosphorylation of EGF receptor (EGFR) at Tyr1045 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-Tyr1045, resulting in activation of PLCγ-mediated downstream signaling (6). Phosphorylation of EGFR at 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 EGFR residues (Tyr1148 and Tyr1173) provides 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; mutation of either of these serines results in upregulated EGFR tyrosine autophosphorylation (10). Site for the Shc scaffold protein, with both sites involved in MAP kinase signaling activation (2). Phosphorylation of EGFR at phospho-Tyr1068 (9). A pair of phosphorylated EGFR residues (Tyr1148 and Tyr1173) provides 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; mutation of either of these serines results in upregulated EGFR tyrosine autophosphorylation (10).

**Specificity/Sensitivity:** EGF Receptor Antibody detects endogenous levels of total EGFR receptor protein. The antibody does not cross-react with other proteins of the ErbB family.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Tyr1068 of human EGF receptor. Antibodies are purified by protein A and peptide affinity chromatography.

**Applications Key:** W—Western, IP—Immunoprecipitation, IHC—Immunohistochemistry, ChIP—Chromatin Immunoprecipitation, IF—Immunofluorescence, F—Flow cytometry, E-P—ELISA-Peptide

**Species Cross-Reactivity Key:** H—Human, M—Mouse, R—Rat, Hm—Hamster, Mm—Mouse, Mk—Mink, C—Chicken, Dm—D. melanogaster, X—Xenopus, Z—Zebra fish, B—Bovine, Dg—Dog, Pg—Pig, Sc—S. cerevisiae, Ce—C. elegans, Hr—Horse, All—all species expected

**Molecular Wt.** 175 kDa

**Recommended Antibody Dilutions:**
- Western blotting: 1:1000
- Immunoprecipitation: 1:100

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

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

**Recommended Antibody Dilutions:**
- Western blotting: 1:100
- Immunoprecipitation: 1:100

**Western blot analysis of extracts from A431 cells, untreated or EGF-treated (100 ng/ml), using Phospho-EGF Receptor (Tyr992) Antibody #2235 (upper) or EGF Receptor Antibody (lower).**

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

**Background References:**

**Swiss-Prot Acc.** # P00533

**Entrez-Gene ID** # 1956

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