**EGF Receptor (D38B1)**

**XP® Rabbit mAb**

**Applications**

- **W**—Western
- **IP**—Immunoprecipitation
- **HIC-P**—Immunohistochemistry
- **IF-IC**—Immunofluorescence
- **F**—Flow cytometry

**Species Cross-Reactivity**

- **H**—human
- **M**—mouse
- **Mk**—monkey

**Molecular Wt.**

- 175 kDa

**Isotype**

- Rabbit IgG**

**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 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 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 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; mutations to either of these serines results in upregulated EGFR tyrosine autophosphorylation (10).

**Specificity/Sensitivity:** EGF Receptor (D38B1) XP® Rabbit mAb detects endogenous levels of total EGF receptor protein. The antibody does not cross-react with other proteins of the ErbB family. Species cross-reactivity for IP-ChIP and IF-IC is human only.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a fusion protein containing the cytoplasmic domain of human EGF receptor.

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

**Recommended Antibody Dilutions:**

- Western blotting: 1:1000
- Immunoprecipitation: 1:100
- Immunohistochemistry (Paraffin): 1:50†
- Unmasking buffer: EDTA
- Antibody diluent: SignalStain® Antibody Diluent #8112
- Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114
- Immunofluorescence (IF-IC): 1:50
- Flow Cytometry: 1:50

† Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

For application specific protocols please see the webpage for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.
Immunohistochemical analysis of paraffin-embedded human placenta using EGF Receptor (D38B1) XP® Rabbit mAb.

Immunohistochemical analysis of paraffin-embedded human hepatocellular carcinoma using EGF Receptor (D38B1) XP® Rabbit mAb.

Background References:

Immunohistochemical analysis of paraffin-embedded MDA-MB-468 (amplified EGFR, left), H-T29 (low EGFR, middle) and CAMA-1 (EGFR negative, right) cells using EGF Receptor (D38B1) XP® Rabbit mAb.

Confocal immunofluorescent analysis of A-549 cells, untreated (left) or treated with Epidermal Growth Factor (Human EGF) #9908 (right), using EGF Receptor (D38B1) XP® Rabbit mAb (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Flow cytometric analysis of Jurkat cells (red) and Kyse70 cells (blue), using EGF Receptor (D38B1) XP® Rabbit mAb.