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#8808

Phospho-EGF Receptor (Thr669) (D2F1) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 175	Source/Isotype: Rabbit IgG	UniProt ID: #P00533	Entrez-Gene Id: 1956
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Product Usage Information

Application

 Western Blotting
Immunoprecipitation

Dilution

 1:1000
1:200

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.

Specificity/Sensitivity

Phospho-EGF Receptor (Thr669) (D2F1) Rabbit mAb detects endogenous levels of EGFR protein only when phosphorylated at Thr669. While the literature refers to this residue as Thr669, it is Thr693 of human EGFR (UniProt sequence P00533) and corresponds to Thr695 of mouse EGFR or Thr694 of rat EGFR.

Species predicted to react based on 100% sequence homology

Mouse, Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr693 of human EGFR protein.

Background

The epidermal growth factor (EGF) receptor is a 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 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 the adaptor protein c-Cbl, leading 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) 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; mutation of either of these serines results in upregulated EGFR tyrosine autophosphorylation (10). Thr669 (equivalent to Thr693 of human EGFR) is phosphorylated by p38 MAP kinase following EGF stimulation (11). Phosphorylation of EGFR at Thr669 may be involved in regulation of ligand induced receptor internalization through interaction with specific downstream EGFR tyrosine kinase substrates (11).

Background References

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- Hubbard, S.R. et al. (1994) *Nature* 372, 746-54.
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- Emler, D.R. et al. (1997) *J Biol Chem* 272, 4079-86.
- Levkowitz, G. et al. (1999) *Mol Cell* 4, 1029-40.
- Ettenberg, S.A. et al. (1999) *Oncogene* 18, 1855-66.
- Rojas, M. et al. (1996) *J Biol Chem* 271, 27456-61.
- Feinmesser, R.L. et al. (1999) *J Biol Chem* 274, 16168-73.
- Winograd-Katz, S.E. and Levitzki, A. (2006) *Oncogene* 25, 7381-90.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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