Revision 1

Store at -20C

#2236

Phospho-EGF Receptor (Tyr1068) (1H12) Mouse mAb

Cell Signaling TECHNOLOGY®

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orders@cellsignal.com

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Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H R Mk	Endogenous	175	Mouse IgG1	#P00533	1956

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

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 (Tyr1068) (1H12) Mouse mAb detects endogenous levels of EGF receptor only when phosphorylated at Tyr1068. This antibody does not recognize EGF receptor phosphorylated at other sites, but may cross-react with other activated ErbB family members. Non-specific staining of smooth muscle may be observed in paraffin-embedded tissues.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr1068 of human EGF receptor.

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).

Background References

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2. Zwick, E. et al. (1999) *Trends Pharmacol Sci* 20, 408-12.
3. Cooper, J.A. and Howell, B. (1993) *Cell* 73, 1051-4.
4. Hubbard, S.R. et al. (1994) *Nature* 372, 746-54.
5. Biscardi, J.S. et al. (1999) *J Biol Chem* 274, 8335-43.
6. Emlet, D.R. et al. (1997) *J Biol Chem* 272, 4079-86.
7. Levkowitz, G. et al. (1999) *Mol Cell* 4, 1029-40.
8. Ettenberg, S.A. et al. (1999) *Oncogene* 18, 1855-66.
9. Rojas, M. et al. (1996) *J Biol Chem* 271, 27456-61.
10. Feinmesser, R.L. et al. (1999) *J Biol Chem* 274, 16168-73.

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 nonfat dry milk, 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 **R:** Rat **Mk:** Monkey

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