Revision 5

Store at +4C

#48685

EGF Receptor (D1D4J) XP® Rabbit mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP, FC-L	H M	Endogenous	Rabbit IgG	#P00533	1956

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:50
Flow Cytometry (Live)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

EGF Receptor (D1D4J) XP® Rabbit mAb (PE Conjugate) recognizes endogenous levels of total EGFR protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with mammalian cells expressing full length EGF receptor protein.

Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated EGFR (D1D4J) XP® Rabbit mAb #54359.

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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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.
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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).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized) **FC-L:** Flow Cytometry (Live)

Cross-Reactivity Key

H: Human **M:** Mouse

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