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## Phospho-EGF Receptor (Tyr998) (C24A5) Rabbit mAb

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

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

#### Application

 Western Blotting  
Immunoprecipitation

#### Dilution

 1:1000  
1:50

### 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 (Tyr998) (C24A5) Rabbit mAb detects endogenous levels of EGF receptor only when phosphorylated at Tyr998. This antibody may weakly cross-react with other tyrosine-phosphorylated proteins.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr998 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). Phosphorylation of EGF receptor on Tyr998 was identified at Cell Signaling Technology (CST) using PhosphoScan®, CST's LC-MS/MS platform for phosphorylation site discovery as well as another publication using MS technology (11). Phosphorylation of EGF receptor at Tyr998 was observed in select carcinoma cell lines and in tumors.

### Background References

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- Hubbard, S.R. et al. (1994) *Nature* 372, 746-54.
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- Emlt, D.R. et al. (1997) *J Biol Chem* 272, 4079-86.
- Levkowitz, G. et al. (1999) *Mol Cell* 4, 1029-40.
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### 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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