

#2232 Store at -20°C

# EGF Receptor Antibody

- Small 100 µl (10 western blots)
- Large 300 µl (30 western blots)



**Orders** ■ 877-616-CELL (2355)  
 orders@cellsignal.com  
**Support** ■ 877-678-TECH (8324)  
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This product is for *in vitro* research use only and is not intended for use in humans or animals. This product is not intended for use as a therapeutic or in diagnostic procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, R, Mk	175 kDa	Rabbit**

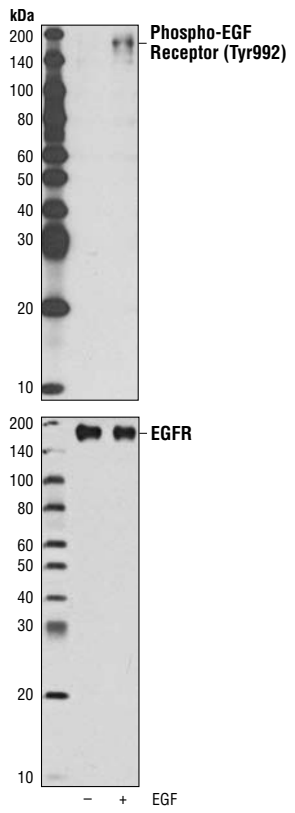
**Background:** Epidermal growth factor (EGF) receptor is a 170 kDa tyrosine kinase. Ligand binding results in receptor dimerization, autophosphorylation, activation of downstream signaling and lysosomal degradation (1,2). Phosphorylation of Tyr845 in the kinase domain is implicated in stabilizing the activation loop, maintaining the enzyme in an active state and providing a binding surface for substrate proteins (3,4). c-Src is involved in phosphorylation of Tyr845 (5). Phospho-tyrosine 992 is a direct binding site for the PLCγ SH2 domain, resulting in activation of PLCγ-mediated downstream signaling (6). Phosphorylation of Tyr1045 creates a major docking site for c-Cbl (7). Binding of c-Cbl to the activated EGFR leads to receptor ubiquitination and degradation (8). Phospho-Tyr1068 of activated EGFR is a direct binding site for Grb2 (9). Phospho-tyrosine 1148 and 1173 provide a docking site for SHC (2). Both sites are involved in the activation of MAP kinase signaling. Phosphorylation of EGFR on serine and threonine residues attenuates EGFR kinase activity. Serines 1046 and 1047 in the carboxy-terminal region of EGFR are sites phosphorylated by CaM kinase II. Mutations to either serine 1046 or 1047 upregulate tyrosine autokinase activity of EGFR (10).

**Specificity/Sensitivity:** EGF Receptor Antibody detects endogenous levels of total EGF receptor protein. The antibody does not cross-react with other proteins of the ErbB family.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to residues surrounding Tyr1068 of human EGF receptor. Antibodies are purified by protein A and peptide affinity chromatography.

**Selected Application References:**  
 Endo, A. et al. (2002) Sphingosine 1-phosphate induces membrane ruffling and increases motility of human umbilical vein endothelial cells via vascular endothelial growth factor receptor and Crkl. *J. Biol. Chem.* 277, 23747–23754. Application: W.

Rimoldi, V. et al. (2003) Oxytocin receptor elicits different EGFR/MAPK activation patterns depending on its localization in caveolin-1 enriched domains. *Oncogene* 22, 6054–6060. Application: W.



Western blot analysis of extracts from A431 cells, untreated or EGF-treated (100 ng/ml), using Phospho-EGF Receptor (Tyr992) Antibody #2235 (upper) or EGF Receptor Antibody (lower).

Zhang, Y. et al. (2004) Intravenous RNA Interference Gene Therapy Targeting the Human Epidermal Growth Factor Receptor Prolongs Survival in Intracranial Brain Cancer. *Experimental Therapeutics, Preclinical Pharmacology* 10, 3667–3677. Application: W.

**Entrez-Gene ID #** 1956  
**Swiss-Prot Acc. #** P00533

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

**\*Species cross-reactivity is determined by western blot.**  
**\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.**

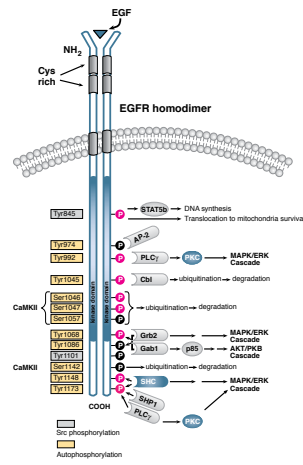
**Recommended Antibody Dilutions:**

Western blotting	1:1000
Immunoprecipitation	1:100

**For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**  
**Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.**

**Background References:**

- Hackel, P.O. et al. (1999) *Curr. Opin. Cell Biol.* 11, 184–189.
- Zwick, E. et al. (1999) *Trends Pharmacol. Sci.* 20, 408–412.
- Cooper, J.A. and Howell, B. (1993) *Cell* 73, 1051–1054.
- Hubbard, S.R. et al. (1994) *Nature* 372, 746–754.
- Biscardi, J.S. et al. (1999) *J. Biol. Chem.* 274, 8335–8343.
- Emlet, D.R. et al. (1997) *J. Biol. Chem.* 272, 4079–4086.
- Levkowitz, G. et al. (1999) *Mol. Cell* 4, 1029–1040.
- Ettenberg, S.A. et al. (1999) *Oncogene* 18, 1855–1866.
- Rojas, M. et al. (1996) *J. Biol. Chem.* 271, 27456–27461.
- Feinmesser, R.L. et al. (1999) *J. Biol. Chem.* 274, 16168–16173.



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

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
**Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected** Species enclosed in parentheses are predicted to react based on 100% homology.