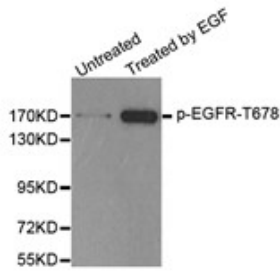


Cat. No:	ABP-0198
Conjugate:	Unconjugated
Size:	100 ug
Clone:	Poly
Concentration:	1mg/ml
Host:	Rb
Isotype:	IgG
Reactivity:	Hu, Ms, Rt, Mk
Applications:	Western blotting 1:1000
Molecular Weight:	175 kDa

Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phospho-peptide corresponding to residues surrounding Thr678 of human EGFR protein. Antibodies are purified by protein A and peptide affinity chromatography.

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 PLC γ binds at phospho-Tyr992, resulting in activation of PLC γ -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 phosphoTyr1068 (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). EGFR can be phosphorylated at Thr678 by PKC (11,12). Phosphorylation at this site is important for keeping internalized EGFR in recycling endosomes and away from degradation pathways (13). Phosphorylation at this site has also been shown to be required for EGFR nuclear shuttling (14). Phospho-EGF Receptor (Thr678) Antibody recognizes endogenous levels of EGFR protein only when phosphorylated at Thr678.

Form:	liquid
Buffer:	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage:	Store at -20°C. Avoid freeze / thaw cycles.



Western blot analysis of extracts from
MDA cells, using Phospho-EGFR (Thr678)
antibody

References

- (1) Hackel, P.O. et al. (1999) *Curr. Opin. Cell Biol.* 11, 184-189. (2) Zwick, E. et al. (1999) *Trends Pharmacol. Sci.* 20, 408-412. (3) Cooper, J.A. and Howell, B. (1993) *Cell* 73, 1051-1054. (4) Hubbard, S.R. et al. (1994) *Nature* 372, 746-754. (5) Biscardi, J.S. et al. (1999) *J. Biol. Chem.* 274, 8335-8343. (6) Emllet, D.R. et al. (1997) *J. Biol. Chem.* 272, 4079-4086. (7) Levkowitz, G. et al. (1999) *Mol. Cell* 4, 1029-1040. (8) Ettenberg, S.A. et al. (1999) *Oncogene* 18, 1855-1866. (9) Rojas, M. et al. (1996) *J. Biol. Chem.* 271, 27456-27461. (10) Feinmesser, R.L. et al. (1999) *J. Biol. Chem.* 274, 16168-16173. (11) Hunter, T. et al. (1984) *Nature* 311, 480-3. (12) Davis, R.J. and Czech, M.P. (1985) *Proc Natl Acad Sci U S A* 82, 1974-8. (13) Bao, J. et al. (2000) *J Biol Chem* 275, 26178-86. (14) Dittmann, K. et al. (2010) *FEBS Lett* 584, 3878-84.

**For Research use only
IMMUNOLOGICAL SCIENCES**