**Product datasheet**

**Anti-EGFR (phospho Y1086) antibody ab5650**

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**Overview**

- **Product name**: Anti-EGFR (phospho Y1086) antibody
- **Description**: Rabbit polyclonal to EGFR (phospho Y1086)
- **Host species**: Rabbit
- **Tested applications**: Suitable for: WB
- **Species reactivity**: Reacts with: Mouse, Rat, Human
- **Immunogen**: Synthetic phosphopeptide (Human) derived from the region of EGFR that contains tyrosine 1086.
- **Positive control**: Purchase matching WB positive control:
  - [Recombinant human EGFR protein](#)
  - NIH3T3 cells expressing human EGFR.

**Properties**

- **Form**: Liquid
- **Storage instructions**: Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
- **Storage buffer**: Preservative: None
  - Constituents: PBS, pH 7.4
- **Purity**: Immunogen affinity purified
- **Purification notes**: The antibody has been negatively preadsorbed using (i) a non phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated epidermal growth factor receptor (EGFR), and (ii) a generic tyrosine phosphorylated peptide to remove antibody that is reactive with phosphotyrosine, irrespective of the sequence. The final product is generated by affinity chromatography using an EGFR-derived peptide that is phosphorylated at tyrosine 1086.
- **Clonality**: Polyclonal
- **Isotype**: IgG

**Applications**

Our [Abpromise guarantee](#) covers the use of ab5650 in the following tested applications.
Function
Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses. Known ligands include EGF, TGFA/TGF-alpha, amphiregulin, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF. Ligand binding triggers receptor homo- and/or heterodimerization and autophosphorylation on key cytoplasmic residues. The phosphorylated receptor recruits adapter proteins like GRB2 which in turn activates complex downstream signaling cascades. Activates at least 4 major downstream signaling cascades including the RAS-RAF-MEK-ERK, PI3 kinase-AKT, PLCgamma-PKC and STATs modules. May also activate the NF-kappa-B signaling cascade. Also directly phosphorylates other proteins like RGS16, activating its GTPase activity and probably coupling the EGF receptor signaling to the G protein-coupled receptor signaling. Also phosphorylates MUC1 and increases its interaction with SRC and CTNNB1/beta-catenin.
Isoform 2 may act as an antagonist of EGF action.

Tissue specificity
Ubiquitously expressed. Isoform 2 is also expressed in ovarian cancers.

Involvement in disease
Lung cancer
Inflammatory skin and bowel disease, neonatal, 2

Sequence similarities
Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily. Contains 1 protein kinase domain.

Post-translational modifications
Phosphorylation at Ser-695 is partial and occurs only if Thr-693 is phosphorylated.
Phosphorylation at Thr-678 and Thr-693 by PRKD1 inhibits EGF-induced MAPK8/JNK1 activation. Dephosphorylation by PTPRJ prevents endocytosis and stabilizes the receptor at the plasma membrane. Autophosphorylation at Tyr-1197 is stimulated by methylation at Arg-1199 and enhances interaction with PTPN6. Autophosphorylation at Tyr-1092 and/or Tyr-1110 recruits STAT3. Dephosphorylated by PTPN1 and PTPN2.
Monoubiquitinated and polyubiquitinated upon EGF stimulation; which does not affect tyrosine kinase activity or signaling capacity but may play a role in lysosomal targeting. Polyubiquitin linkage is mainly through 'Lys-63', but linkage through 'Lys-48', 'Lys-11' and 'Lys-29' also occurs. Deubiquitination by OTUD7B prevents degradation. Ubiquitinated by RNF115 and RNF126. Methylated. Methylation at Arg-1199 by PRMT5 stimulates phosphorylation at Tyr-1197.

Cellular localization

Images
Cell extracts prepared from NIH3T3 cells expressing EGFR were starved for 30 hours, then stimulated for 10 minutes with 30 ng/mL EGF (+), or left unstimulated (-), then resolved by SDS-PAGE on a 6% Tris-glycine gel, and transferred to nitrocellulose. Membranes were incubated with 0.50 µg/mL ab5650 antibody, following prior incubation in the absence (lanes 1 & 2), or presence of the peptide immunogen (lanes 3 & 4), or the nonphosphopeptide corresponding to the EGFR phosphopeptide (lanes 5 & 6). After washing, membranes were incubated with goat F(ab')2 antirabbit IgG alkaline phosphatase and bands were detected using the Tropix WesternStar detection method. The data show that only the phosphopeptide corresponding to this site blocks the antibody signal, demonstrating the specificity of the ab5650 antibody for this phosphorylated residue. Cell extracts prepared from NIH3T3 cells expressing EGFR were starved for 30 hours, then stimulate...