

# Phospho-EGFR(Y1016) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP3507a

## Product Information

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<b>Application</b>	DB, WB, E
<b>Primary Accession</b>	<a href="#">P00533</a>
<b>Other Accession</b>	<a href="#">Q01279</a>
<b>Reactivity</b>	Human
<b>Predicted</b>	Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB11166
<b>Calculated MW</b>	134277

## Additional Information

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<b>Gene ID</b>	1956
<b>Other Names</b>	Epidermal growth factor receptor, Proto-oncogene c-ErbB-1, Receptor tyrosine-protein kinase erbB-1, EGFR, ERBB, ERBB1, HER1
<b>Target/Specificity</b>	This EGFR Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y1016 of human EGFR.
<b>Dilution</b>	DB~~1:500 WB~~1:8000 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	Phospho-EGFR(Y1016) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	EGFR ( <a href="#">HGNC:3236</a> )
<b>Synonyms</b>	ERBB, ERBB1, HER1
<b>Function</b>	Receptor tyrosine kinase binding ligands of the EGF family and activating

several signaling cascades to convert extracellular cues into appropriate cellular responses (PubMed:[10805725](#), PubMed:[27153536](#), PubMed:[2790960](#), PubMed:[35538033](#)). Known ligands include EGF, TGFA/TGF- alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF (PubMed:[12297049](#), PubMed:[15611079](#), PubMed:[17909029](#), PubMed:[20837704](#), PubMed:[27153536](#), PubMed:[2790960](#), PubMed:[7679104](#), PubMed:[8144591](#), PubMed:[9419975](#)). 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 (PubMed:[27153536](#)). May also activate the NF-kappa-B signaling cascade (PubMed:[11116146](#)). 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 (PubMed:[11602604](#)). Also phosphorylates MUC1 and increases its interaction with SRC and CTNNB1/beta-catenin (PubMed:[11483589](#)). Positively regulates cell migration via interaction with CCDC88A/GIV which retains EGFR at the cell membrane following ligand stimulation, promoting EGFR signaling which triggers cell migration (PubMed:[20462955](#)). Plays a role in enhancing learning and memory performance (By similarity). Plays a role in mammalian pain signaling (long-lasting hypersensitivity) (By similarity).

#### Cellular Location

Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein Golgi apparatus membrane; Single-pass type I membrane protein. Nucleus membrane; Single-pass type I membrane protein. Endosome. Endosome membrane. Nucleus. Note=In response to EGF, translocated from the cell membrane to the nucleus via Golgi and ER (PubMed:[17909029](#), PubMed:[20674546](#)). Endocytosed upon activation by ligand (PubMed:[17182860](#), PubMed:[17909029](#), PubMed:[27153536](#), PubMed:[2790960](#)). Colocalized with GPER1 in the nucleus of estrogen agonist-induced cancer-associated fibroblasts (CAF) (PubMed:[20551055](#))

#### Tissue Location

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

## Background

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Epidermal Growth factor receptor (EGFR) is the prototype member of the type 1 receptor tyrosine kinases. EGFR overexpression in tumors indicates poor prognosis and is observed in tumors of the head and neck, brain, bladder, stomach, breast, lung, endometrium, cervix, vulva, ovary, esophagus, stomach and in squamous cell carcinoma. EGFR is a receptor for EGF, but also for other members of the EGF family, including TGF-alpha, amphiregulin, betacellulin, heparin-binding EGF-like growth factor, GP30 and vaccinia virus growth factor. It is involved in the control of cell growth and differentiation.

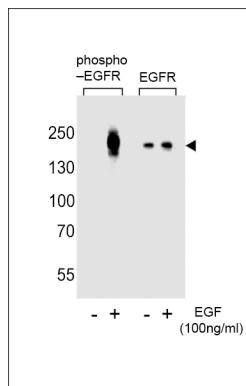
## References

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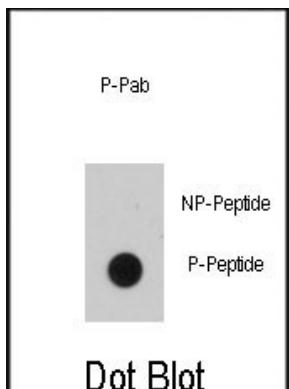
- Aifa, S., et al., *Exp. Cell Res.* 302(1):108-114 (2005).
- Adams, T.E., et al., *Growth Factors* 22(2):89-95 (2004).
- Ichinose, J., et al., *Biochem. Biophys. Res. Commun.* 324(3):1143-1149 (2004).
- Kuribayashi, A., et al., *Endocrinology* 145(11):4976-4984 (2004).
- Kapoor, G.S., et al., *Mol. Cell. Biol.* 24(2):823-836 (2004).

## Images

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Western blot analysis of lysate from A431 cells (from left to right), untreated or treated with EGF at 100ng/ml, using Phospho-EGFR-pY1016 Antibody (Cat. #AP3507a) or EGFR-pS695 Antibody. Lysate at 15ug per lane. AP3507a was diluted at 1:8000 dilution at each lane. A goat anti-rabbit IgG H&L (HRP) at 1:5000 dilution was used as the secondary antibody.



Dot blot analysis of anti-EGFR B1 Phospho-specific Pab (Cat. #AP3507a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

## Citations

- [The Antimetastatic Effect and Underlying Mechanisms of Thioredoxin Reductase Inhibitor Ehaselen.](#)

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