

## Product datasheet

# Anti-EGFR (phospho Y992) antibody [EM-12] ab81440

5 References 3 Images

### Overview

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<b>Product name</b>	Anti-EGFR (phospho Y992) antibody [EM-12]
<b>Description</b>	Mouse monoclonal [EM-12] to EGFR (phospho Y992)
<b>Host species</b>	Mouse
<b>Specificity</b>	ab81440 recognises EGFR phosphorylated on tyrosine 992.
<b>Tested applications</b>	<b>Suitable for:</b> Flow Cyt, WB, IP
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Synthetic phospho-peptide covering sequence around tyrosine 992 of Human EGFR.
<b>Positive control</b>	EGF-stimulated A431, A431, CALU-3, Jurkat cell lines.
<b>General notes</b>	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications &amp; species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications &amp; species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications &amp; species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.</p> <p>Applications &amp; species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&amp;As.</p>

### Properties

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<b>Form</b>	Liquid
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<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
<b>Storage buffer</b>	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: PBS
<b>Purity</b>	Protein A purified
<b>Purification notes</b>	Purified from hybridoma culture supernatant. Purity: > 95% (by SDS-PAGE).
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EM-12
<b>Isotype</b>	IgG1

## Applications

Our [Abpromise guarantee](#) covers the use of **ab81440** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use at an assay dependent concentration. <a href="#">ab170190</a> - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 170 kDa (predicted molecular weight: 134 kDa).
IP		Use at an assay dependent concentration.

## Target

<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. 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.
<b>Tissue specificity</b>	Ubiquitously expressed. Isoform 2 is also expressed in ovarian cancers.
<b>Involvement in disease</b>	Lung cancer Inflammatory skin and bowel disease, neonatal, 2
<b>Sequence similarities</b>	Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily.

Contains 1 protein kinase domain.

### Post-translational modifications

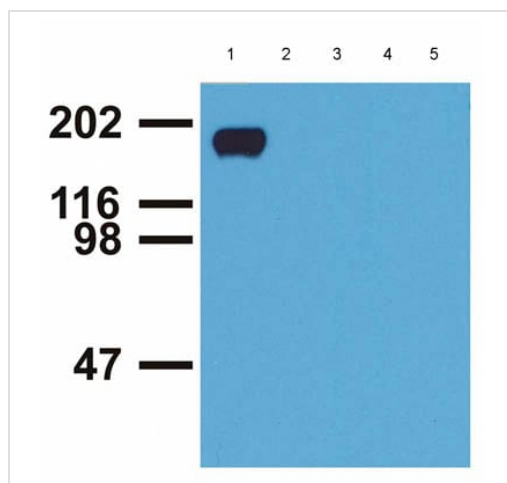
Phosphorylation at Ser-695 is partial and occurs only if Thr-693 is phosphorylated. Phosphorylation at Thr-678 and Thr-693 by PRKD1 inhibits EGF-induced MAPK8/JNK1 activation. Dephosphorylation by PTPRJ prevents endocytosis and stabilizes the receptor at the plasma membrane. Autophosphorylation at Tyr-1197 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

Secreted and Cell membrane. Endoplasmic reticulum membrane. Golgi apparatus membrane. Nucleus membrane. Endosome. Endosome membrane. Nucleus. In response to EGF, translocated from the cell membrane to the nucleus via Golgi and ER. Endocytosed upon activation by ligand. Colocalized with GPER1 in the nucleus of estrogen agonist-induced cancer-associated fibroblasts (CAF).

### Images



Western blot - Anti-EGFR (phospho Y992) antibody [EM-12] (ab81440)

**All lanes :** Anti-EGFR (phospho Y992) antibody [EM-12] (ab81440) at 1 µg/ml

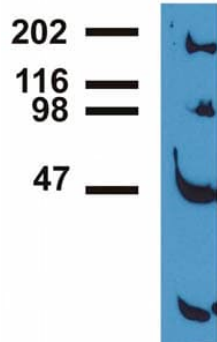
- Lane 1 :** EGF-treated A431 cell line
- Lane 2 :** EGF-treated CALU-3 cell line
- Lane 3 :** EGF-treated MCF-7 cell line
- Lane 4 :** EGF-treated Jurkat cell line
- Lane 5 :** EGF-treated Ramos cell line

Performed under reducing conditions.

**Predicted band size:** 134 kDa

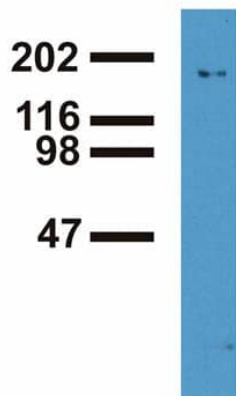
**Observed band size:** 170 kDa

[why is the actual band size different from the predicted?](#)



Immunoprecipitation - Anti-EGFR (phospho Y992) antibody [EM-12] (ab81440)

Immunoprecipitation of EGFR from EGF-treated A431 cells by ab81440. The precipitates were immunoblotted with ab81440 at 1µg/ml and goat anti-mouse-HRP.



Immunoprecipitation - Anti-EGFR (phospho Y992) antibody [EM-12] (ab81440)

Immunoprecipitation of EGFR from EGF-treated A431 cells by ab81440. The precipitates were immunoblotted with a commercial anti-EGFR polyclonal and goat anti-rabbit-HRP.

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