# Product datasheet

## Anti-EGFR antibody [EGFR1] ab30

![Stars](https://www.abcam.com/resources/icons/rating-stars.png) 4 Abreviews  12 References  2 Images

## Overview

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-EGFR antibody [EGFR1]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Mouse monoclonal [EGFR1] to EGFR</td>
</tr>
<tr>
<td><strong>Host species</strong></td>
<td>Mouse</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>This antibody does not react with erbB-2, erbB-3 and erbB-4.</td>
</tr>
</tbody>
</table>
| **Tested applications** | **Suitable for:** IHC-Fr, ICC/IF, IP, Flow Cyt, IHC - Wholemount  
**Unsuitable for:** ELISA or WB |
| **Species reactivity** | **Reacts with:** Mouse, Horse, Human |
| **Immunogen**    | Tissue, cells or virus corresponding to Human EGFR (extracellular). Human epidermoid carcinoma line A431; epitope mapped between aa 6-273 of human EGFR. |
| **Epitope**      | Extracellular. |
| **General notes**| Recognises the external EGF-binding domain of the EGFR transmembrane glycoprotein. No effect on tyrosine kinase activity of EGFR. |

## Properties

<table>
<thead>
<tr>
<th><strong>Form</strong></th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storage instructions</strong></td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.</td>
</tr>
<tr>
<td><strong>Storage buffer</strong></td>
<td>Constituent: PBS</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Protein A purified</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Monoclonal</td>
</tr>
<tr>
<td><strong>Clone number</strong></td>
<td>EGFR1</td>
</tr>
<tr>
<td><strong>Myeloma</strong></td>
<td>P3-NS1/1-Ag4-1</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG2b</td>
</tr>
<tr>
<td><strong>Light chain type</strong></td>
<td>kappa</td>
</tr>
</tbody>
</table>

## Applications

Our Abpromise guarantee covers the use of ab30 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
**Application** | **Abrevies** | **Notes**
--- | --- | ---
IHC-Fr | | Use at an assay dependent concentration.

| ICC/IF | | Use a concentration of 1 µg/ml.

| IP | | Use at an assay dependent concentration.

| Flow Cyt | | Use 1µg for 10^6 cells.  
(unsuitable for fixed cells)

ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

| IHC - Wholemount | | Use at an assay dependent concentration.

**Application notes**  
Is unsuitable for ELISA or WB.

**Target**

**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

ICC/IF image of ab30 stained HepG2 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab30, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

Overlay histogram showing HEK293 cells stained with ab30 (red line). The cells were incubated with the antibody (ab30, 1µg/1x10^6 cells) for 30 min at 4°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/200 dilution for 30 min at 4°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91366, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. Please note that 4% paraformaldehyde (10 min) or methanol (5 min) fixation prior to antibody staining significantly decreased signal.

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