## Overview

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-EGFR antibody [SP84] - C-terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rabbit monoclonal [SP84] to EGFR - C-terminal</td>
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<tr>
<td><strong>Host species</strong></td>
<td>Rabbit</td>
</tr>
<tr>
<td><strong>Tested applications</strong></td>
<td>Suitable for: Flow Cyt, ICC/IF, IHC-P, WB</td>
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<tr>
<td><strong>Species reactivity</strong></td>
<td>Reacts with: Human</td>
</tr>
<tr>
<td><strong>Immunogen</strong></td>
<td>Synthetic peptide within Human EGFR aa 1150 to the C-terminus (C terminal). The exact sequence is proprietary. Database link: <a href="#">P07327</a></td>
</tr>
</tbody>
</table>

## 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 long term. Avoid freeze/thaw cycle.</td>
</tr>
<tr>
<td><strong>Storage buffer</strong></td>
<td>pH: 7.6</td>
</tr>
<tr>
<td></td>
<td>Preservative: 0.1% Sodium azide</td>
</tr>
<tr>
<td></td>
<td>Constituents: PBS, 1% BSA</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Protein A/G purified</td>
</tr>
<tr>
<td><strong>Purification notes</strong></td>
<td>Purified from TCS by protein A/G.</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Monoclonal</td>
</tr>
<tr>
<td><strong>Clone number</strong></td>
<td>SP84</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG</td>
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</tbody>
</table>

## 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

Formalin-fixed, paraffin-embedded human breast ductal carcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.

Flow Cytometry analysis of A431(Human epidermoid carcinoma epithelial cell) cells labeling EGFR with purified ab227642 at 1:200 dilution (0.48 µg/ml) Red. Cells were fixed with 4% paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1:2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / Blue.
Immunocytochemistry/ Immunofluorescence analysis of A431 (human epidermoid carcinoma epithelial cell) cells labeling EGFR with purified ab227642 at 1:50 (1.92 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

Formalin-fixed, paraffin-embedded human lung squamous cell carcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.
Formalin-fixed, paraffin-embedded human colon adenocarcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.

Formalin-fixed, paraffin-embedded human lung adenocarcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.
Formalin-fixed, paraffin-embedded human lung squamous cell carcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.

Formalin-fixed, paraffin-embedded human renal cell carcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.

Formalin-fixed, paraffin-embedded human stomach adenocarcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.
Formalin-fixed, paraffin-embedded human liver hepatocellular carcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.

Formalin-fixed, paraffin-embedded human bladder transitional cell carcinoma tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.

Formalin-fixed, paraffin-embedded human placenta tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.
Formalin-fixed, paraffin-embedded human liver tissue stained for EGFR using ab227642 at 1/100 dilution in immunohistochemical analysis.

Anti-EGFR antibody [SP84] - C-terminal (ab227642) at 1/25 dilution + A431 (human epidermoid carcinoma cell line) EGF treated cell lysate

**Predicted band size:** 134 kDa

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**Please note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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