Product name: Anti-EGFR antibody [SP84] - C-terminal

Description: Rabbit monoclonal [SP84] to EGFR - C-terminal

Host species: Rabbit

Tested applications:
- Suitable for: ICC/IF, IHC-P, WB, Flow Cyt (Intra)

Species reactivity:
- Reacts with: Human
- Predicted to work with: Mouse, Rat, Cow, Pig

Immunogen:
Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.

Positive control:
- WB: A431 EGF treated cell lysate.
- Flow Cyt: A431 cells.
- ICC/IF: A431 cells.

General notes:
This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.

Properties:
- Form: Liquid
- Storage instructions:
- Storage buffer:
  pH: 7.60
  Preservative: 0.1% Sodium azide
  Constituents: PBS, 1% BSA
- Purity: Protein A/G purified
- Purification notes: Purified from TCS by protein A/G.
- Clonality: Monoclonal
- Clone number: SP84
- Isotype: IgG
The Abpromise guarantee

Our Abpromise guarantee covers the use of ab227642 in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC/IF</td>
<td></td>
<td>1/1000.</td>
</tr>
<tr>
<td>IHC-P</td>
<td>★★★★★ (1)</td>
<td>1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Primary antibody incubation for 30 minutes at room temperature.</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td>1/25. Predicted molecular weight: 134 kDa. Primary antibody incubation for 1 hour at room temperature.</td>
</tr>
<tr>
<td>Flow Cyt (Intra)</td>
<td></td>
<td>1/200. Permeabilize with 90% Methanol (-20 ºC for 30min) after fixation.</td>
</tr>
</tbody>
</table>

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**

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. Unlabelled 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
Anti-EGFR antibody [SP84] - C-terminal (ab227642)

Please note: All products are “FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES”

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors