

Mouse Anti-EGFR antibody

SLM-33140M

Product Name EGFR

Chinese Name 表皮生长因子受体单克隆抗体

Alias Avian erythroblastic leukemia viral (v erb b) oncogene homolog; Avian erythroblastic leukemia viral (verbb) oncogene homolog; Cell growth inhibiting protein 40; Cell proliferation inducing protein 61; EGF R; Epidermal growth factor receptor (avian erythroblastic leukemia viral (v erb b) oncogene homolog); Epidermal growth factor receptor (erythroblastic leukemia viral (v erb b) oncogene homolog avian); Epidermal growth factor receptor; erbb 1; Erbb; Erbb1; HER1; mENA; Oncogene ERBB; PIG61; Receptor tyrosine protein kinase ErbB 1; Receptor tyrosine protein kinase ErbB1; Urogastrone; wa2; Wa5; EGFR_HUMAN.

Research Area Tumour Cell biology immunology

Immunogen Species Mouse

Clonality Monoclonal

Clone NO. 1A6

React Species Human,

Applications WB=1:1000-5000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
(Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 130kDa

Cellular localization The nucleus cytoplasmic The cell membrane Secretory protein

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human EGFR

Lsotype IgG

Purification affinity purified by Protein G

Buffer 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

**Solution****Storage**

Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed

[PubMed](#)

The protein encoded by this gene is a transmembrane glycoprotein that is a member of the protein kinase superfamily. This protein is a receptor for members of the epidermal growth factor family. EGFR is a cell surface protein that binds to epidermal growth factor. Binding of the protein to a ligand induces receptor dimerization and tyrosine autophosphorylation and leads to cell proliferation. Mutations in this gene are associated with lung cancer. Multiple alternatively spliced transcript variants that encode different protein isoforms have been found for this gene. [provided by RefSeq, Jul 2010]

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.

**Product
Detail****Subunit:**

Binding of the ligand triggers homo- and/or heterodimerization of the receptor triggering its autophosphorylation. Heterodimer with ERBB2. Interacts with ERFFI1; inhibits dimerization of the kinase domain and autophosphorylation. Part of a complex with ERBB2 and either PIK3C2A or PIK3C2B. Interacts with GRB2; an adapter protein coupling the receptor to downstream signaling pathways. Interacts with GAB2; involved in signaling downstream of EGFR. Interacts with STAT3; mediates EGFR downstream signaling in cell proliferation. Interacts with RIPK1; involved in NF-kappa-B activation. Interacts (autophosphorylated) with CBL; involved in EGFR ubiquitination and regulation. Interacts with SOCS5; regulates EGFR degradation through TCEB1- and TCEB2-mediated ubiquitination and proteasomal degradation. Interacts with PRMT5; methylates EGFR and enhances interaction with PTPN6. Interacts (phosphorylated) with PTPN6; inhibits EGFR-dependent activation of MAPK/ERK. Interacts with COPG; essential for regulation of EGF-dependent nuclear transport of EGFR by retrograde trafficking from the Golgi to the ER. Interacts with TNK2; this interaction is dependent on

EGF stimulation and kinase activity of EGFR. Interacts with PCNA; positively regulates PCNA. Interacts with PELP1. Interacts with MUC1. Interacts with AP2M1. Interacts with FER. May interact with EPS8; mediates EPS8 phosphorylation. Interacts (via SH2 domains) with GRB2, NCK1 and NCK2.

Subcellular 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. Note=In response to EGF, translocated from the cell membrane to the nucleus via Golgi and ER. Endocytosed upon activation by ligand. Isoform 2: Secreted.

Tissue Specificity:

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

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.

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 occur.

Methylated. Methylation at Arg-1199 by PRMT5 positively stimulates phosphorylation at Tyr-1197.

DISEASE:

Defects in EGFR are associated with lung cancer (LNCR) [MIM:211980]. LNCR is a common malignancy affecting tissues of the lung. The most common form of lung cancer is non-small cell lung cancer (NSCLC) that can be divided into 3 major histologic subtypes: squamous cell carcinoma, adenocarcinoma, and large cell lung cancer. NSCLC is often diagnosed at an advanced stage and has a poor prognosis.

Similarity:

Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily.

Contains 1 protein kinase domain.

SWISS:

P00533

Gene ID:

1956

Database links:

[Entrez Gene: 407217](#) Cow

[Entrez Gene: 1956](#) Human

[Entrez Gene: 13649](#) Mouse

[Entrez Gene: 24329](#) Rat

[Omim: 131550](#) Human

[SwissProt: P00533](#) Human

[SwissProt: Q01279](#) Mouse

[Unigene: 488293](#) Human

[Unigene: 420648](#) Mouse

[Unigene: 439882](#) Mouse

[Unigene: 8534](#) Mouse

[Unigene: 37227](#) Rat

The cell membrane 受体 (Membrane Receptors)

EGFR-血管内皮生长因子受体 EGFR 是一类分子量为 170kDa 的 glycoprotein, 在生长的细胞包括中瘤细胞中跨越细胞质膜, 表现有蛋白激酶活性。

EGFR 是一种 The cell membrane 受体激酶, 对血管内皮生长因子有高度的亲和性, 主要功能是参与 vascular endothelial cell 生长和血管生成的调控,主要用于各种恶性 Tumour 的研究.

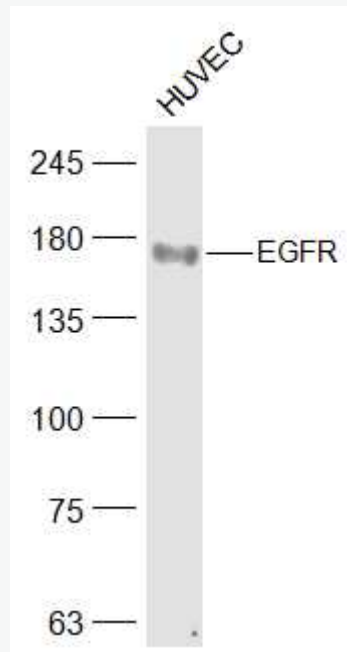
与其配体表皮生长因子或尿抑胃素结合后则被激活, 从而启动 DNA 及蛋白质的合成。再不进行有丝分裂的细胞中并不存在, 但在胃中例外。

大量研究报道显示, EGFR 高表达的 Tumour 生存降低、转移风险增高、预后不良。

在很多 Tumour 中都存在着 EGFR 表达或过度表达。这些疾病包括: 结直肠癌

(CRC)、头颈部鳞状细胞癌 (SCCHN)、乳腺癌、卵巢癌、宫颈癌、食道癌、胰腺癌、膀胱癌、前列腺癌和非小细胞肺癌等。研究表明, EGFR 表达的 Tumour 恶性程度增高、侵袭性强, 这类 Tumour 患者往往生存降低、转移风险增高、预后不良。

**Product
Picture**



Sample:

HUVEC(Human) Cell Lysate at 30 ug

Primary: Anti-EGFR (SLM-33140M) at 1/500 dilution

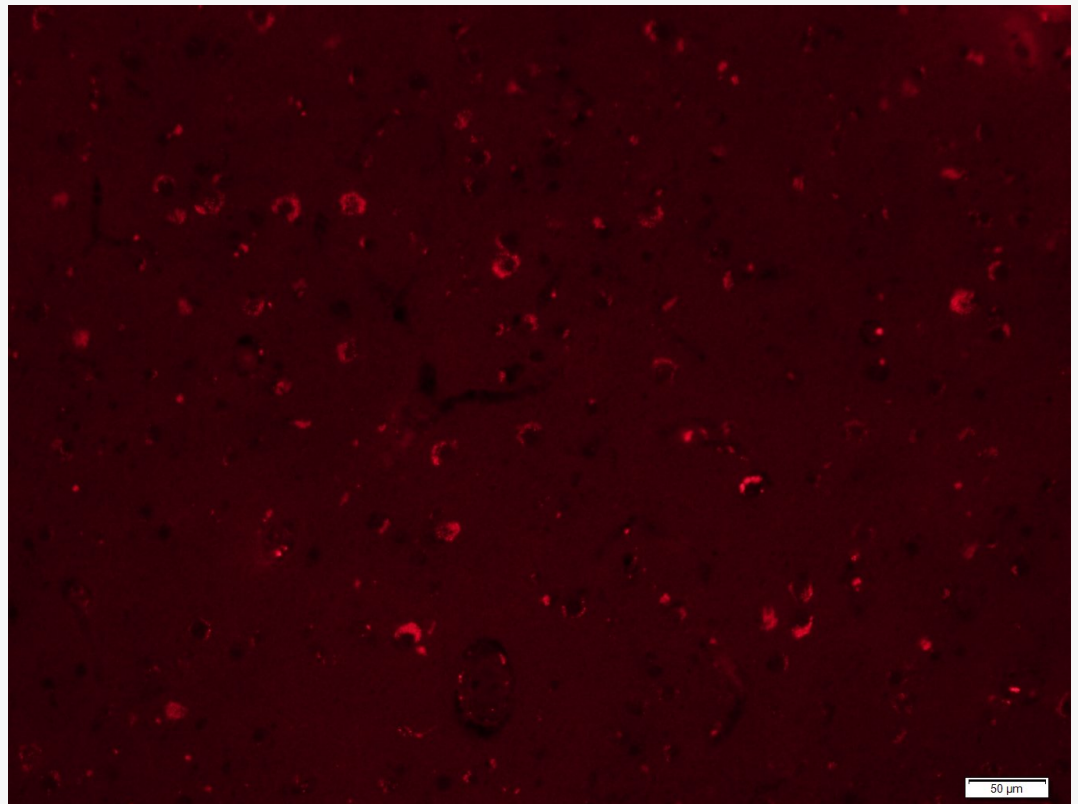
Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution

Predicted band size: 170 kD

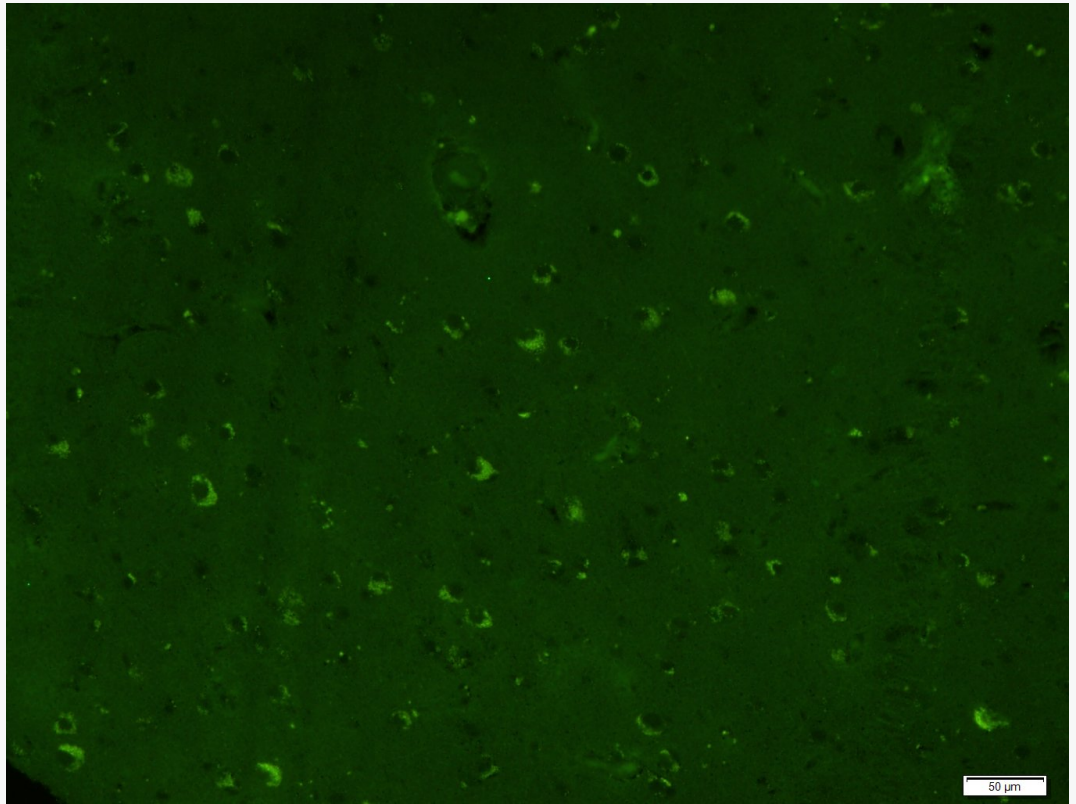
Observed band size: 170 kD



Tissue/cell:HeLa cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min; Antibody incubation with (EGFR) monoclonal Antibody, Unconjugated (SLM-33140M) 1:100, 90 minutes at 37°C; followed by a CY3 conjugated Goat Anti-Mouse IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.



Paraformaldehyde-fixed, paraffin embedded (Human brain glioma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (EGFR) Monoclonal Antibody, Unconjugated (SLM-33140M) at 1:400 overnight at 4°C, followed by a conjugated Goat Anti-Mouse IgG antibody (SL0296G-CY5) for 90 minutes, and DAPI for nuclei staining.



Paraformaldehyde-fixed, paraffin embedded (Human brain glioma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (EGFR) Monoclonal Antibody, Unconjugated (SLM-33140M) at 1:400 overnight at 4°C, followed by a conjugated Goat Anti-Mouse IgG antibody (SL0296G-FITC) for 90 minutes, and DAPI for nuclei staining.