abcam

Product datasheet

Recombinant mouse EGFR protein (Active) ab196107

2 Images

Description

Product name	Recombinant mouse EGFR protein (Active)
Biological activity	**Specific Activity:** 49 pmole/min/mg **Assay Conditions:** Assay was performed in a Kinase buffer containing 0.2 mM DTT using Poly-(Glu4:Tyr)-biotin substrate (0.2 mg/ml) and 20 µM ATP. The reaction to place at 30°C for 40 min. The amount of ATP transferred was calculated using Kinase reagent.
Purity	>= 38 % SDS-PAGE.
Expression system	Baculovirus infected Sf9 cells
Accession	Q01279
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Mouse
Sequence	MRRRHIVRKRTLRRLLQERELVEPLTPSGEAPNQAHLR ILKETEFKKIKV LGSGAFGTVYKGLWIPEGEKVKIPVAIKELREATSPKA NKEILDEAYVMA SVDNPHVCRLLGICLTSTVQLITQLMPYGCLLDYVREHK DNIGSQYLLNW CVQIAKGMNYLEDRRLVHRDLAARNVLVKTPQHVKITD FGLAKLLGAEEK EYHAEGGKVPIKWMALESILHRIYTHQSDVWSYGVTVW ELMTFGSKPYDG IPASDISSILEKGERLPQPPICTIDVYMIMVKCWMIDADS RPKFRELIL E FSKMARDPQRYLVIQGDERMHLPSPTDSNFYRALMDE EDMEDVVDADEYL IPQQGFFNSPSTSRTPLLSSLSATSNNSTVACINRNGS CRVKEDAFLQRY SSDPTGAVTEDNIDDAFLPVPEYVNQSVPKRPAGSVQ NPVYHNQPLHPAP GRDLHYQNPHSNAVGNPEYLNTAQPTCLSSGFNSPAL WIQKGSHQMSLDN PDYQQDFFPKETKPNGIFKGPTAENAEYLRVAPPSSE

Predicted molecular weight	62 kDa including tags
Amino acids	670 to 1210
Tags	DDDDK tag N-Terminus
Additional sequence information	GenBank Accession No. NM_207655/NP_997538

Specifications

Our Abpromise guarantee covers the use of **ab196107** in the following tested applications.

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

Applications	SDS-PAGE Functional Studies
Form	Liquid

Preparation and Storage

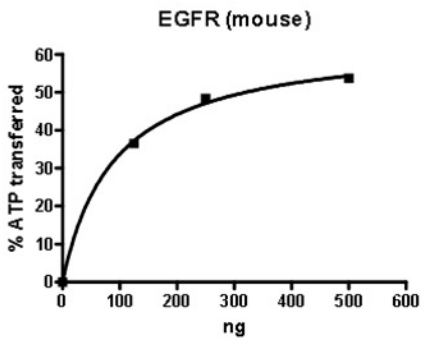
Stability and Storage	Shipped on Dry Ice. Store at -80°C. Avoid freeze / thaw cycle. pH: 8 Constituents: 0.71% Tris HCl, 2.03% Sodium chloride, 0.02% Potassium chloride, 10% Glycerol This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

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

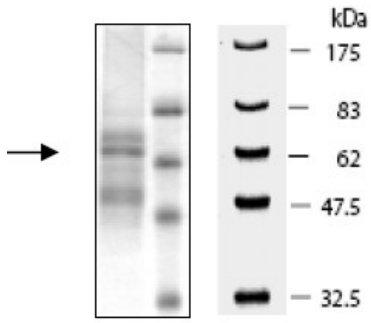
	and enhances interaction with PTPN6. Autophosphorylation at Tyr-1092 and/or Tyr-1110 recruits STAT3. Dephosphorylated by PTPN1 and PTPN2. Monoubiquitinated and polyubiquitinated upon EGF stimulation; which does not affect tyrosine kinase activity or signaling capacity but may play a role in lysosomal 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	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



Functional Studies - Recombinant mouse EGFR protein (Active) (ab196107)

Specific activity of ab196107 was determined to be 49 pmol/min/mg



SDS-PAGE - Recombinant mouse EGFR protein (Active) (ab196107)

10% SDS Page analysis of ab196107 (1 µg)

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