abcam

Product datasheet

Human EGFR ELISA Kit (ERBB) ab100505

2 References 4 Images

Overview

Product name	Human EGFR ELISA Kit (ERBB)
Detection method	Colorimetric
Sample type	Cell culture supernatant, Serum, Plasma
Assay type	Sandwich (quantitative)
Sensitivity	< 4 pg/ml
Range	2.74 pg/ml - 2000 pg/ml
Recovery	> 85 %

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	85.65	72% - 96%
Serum	105.4	94% - 116%
Plasma	107.2	96% - 119%

Assay duration	Multiple steps standard assay
Species reactivity	**Reacts with:** Human
Product overview	Abcam's EGFR (ERBB) Human ELISA (Enzyme-Linked Immunosorbent Assay) kit is an *in vitro* enzyme-linked immunosorbent assay for the quantitative measurement of Human EGFR in serum, plasma, and cell culture supernatants. This assay employs an antibody specific for Human EGFR coated on a 96-well plate. Standards and samples are pipetted into the wells and EGFR present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated antiHuman EGFR antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of EGFR bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm. Get higher sensitivity in only 90 minutes with Human soluble EGFR ELISA Kit (**ab193764**) from our SimpleStep ELISA® range.

Notes	Optimisation may be required with urine samples.
Platform	Microplate

Properties

Storage instructions	Store at -20°C. Please refer to protocols.

Components	1 x 96 tests
20X Wash Buffer	1 x 25ml
300X HRP-Streptavidin Concentrate	1 x 200µl
5X Assay Diluent B	1 x 15ml
Assay Diluent A	1 x 30ml
Biotinylated anti-Human EGFR	2 vials
EGFR Microplate (12 x 8 well strips)	1 unit
Recombinant Human EGFR Standard (lyophilized)	2 vials
Stop Solution	1 x 8ml
TMB One-Step Substrate Reagent	1 x 12ml

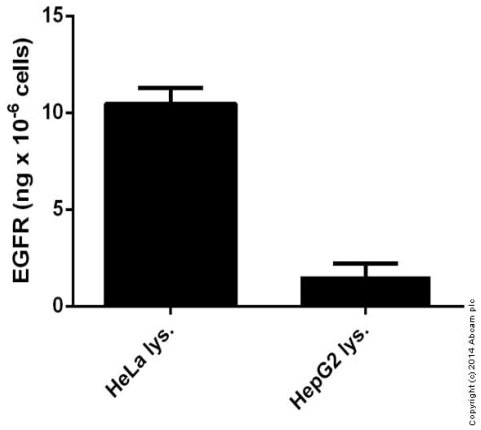
Function	Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses. Known ligands include EGF, TGFA/TGF-alpha, amphiregulin, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding 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

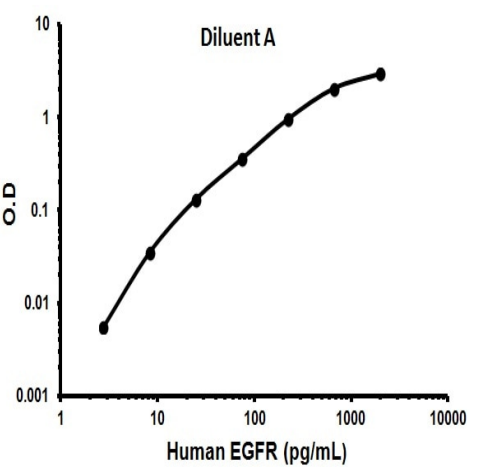
Secreted and Cell membrane. Endoplasmic reticulum membrane. Golgi apparatus membrane. Nucleus membrane. Endosome. Endosome membrane. Nucleus. In response to EGF, translocated from the cell membrane to the nucleus via Golgi and ER. Endocytosed upon activation by ligand. Colocalized with GPER1 in the nucleus of estrogen agonist-induced cancer-associated fibroblasts (CAF).

Images



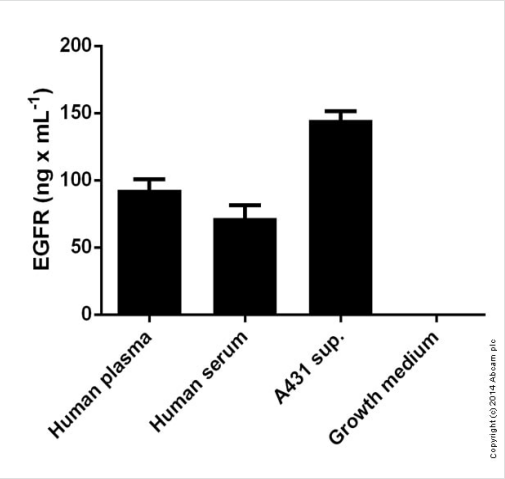
EGFR measured in cell lysates showing quantity (ng) per 1 million cells

Sandwich ELISA - ab100505 EGFR (ERBB) Human ELISA Kit



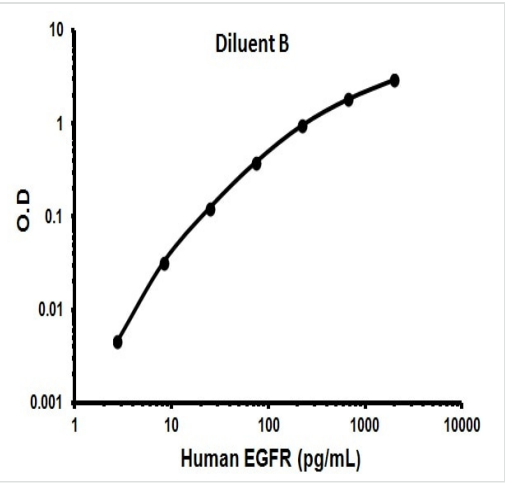
Representative Standard Curve using ab100505.

Typical Standard Curve



EGFR measured in various fluids showing quantity (ng) per mL of tested sample

Sandwich ELISA - ab100505 EGFR (ERBB) Human ELISA Kit



Representative Standard Curve using ab100505.

Typical Standard Curve

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