Datasheet for ABIN411266

EGFR ELISA Kit

1 Image | 4 Publications

Go to Product page

Overview

Quantity:	96 tests
Target:	EGFR
Binding Specificity:	AA 1-645
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	156-10000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human EGFR
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Milk
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: M1-S645
Specificity:	Expression system for standard: NSO Immunogen sequence: M1-S645
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<1pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g Nacl

Target Details

Target:	EGFR
Alternative Name:	EGFR (EGFR Products)
Background:	Protein 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. Background: The epidermal growth factor receptor(EGFR, ErbB-1, HER1 in humans) is the cell-surface receptor for members of the epidermal growth factor family(EGF-family) of extracellular protein ligands.1 It is a member of the ErbB family of receptors, a subfamily of four closely related receptor tyrosine kinases: EGFR(ErbB-1), HER2/c-neu(ErbB-2), Her 3(ErbB-3) and Her 4(ErbB-4). EGFR exists on the cell surface and is activated by binding of its specific ligands, including epidermal growth factor and transforming growth factor alpha(TGFalpha). EGFR and its ligands are cell signaling molecules involved in diverse cellular functions, including cell proliferation, differentiation, motility, and survival, and in tissue development. Mutations that lead to EGFR overexpression(known as upregulation) or overactivity have been associated with a number of cancers, including lung cancer and glioblastoma multiforme. In this latter case a more or less specific mutation of EGFR, called EGFRvIII is often observed. Synonyms: Epidermal growth factor receptor,2.7.10.1,Proto-oncogene c-ErbB-1,Receptor tyrosine-protein kinase erbB-1,EGFR,ERBB, ERBB1, HER1,

Target Details

	Full Gene Name: Epidermal growth factor receptor Cellular Localisation: 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. 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).
Gene ID:	1956
UniProt:	P00533
Pathways:	NF-kappaB Signaling, RTK Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Stem Cell Maintenance, Hepatitis C, Positive Regulation of Response to DNA Damage Stimulus, Interaction of EGFR with phospholipase C-gamma, Thromboxane A2 Receptor Signaling, EGFR Downregulation, S100 Proteins

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily. Tissue Specificity: Ubiquitously expressed. Isoform 2 is also expressed in ovarian cancers. .
Plate:	Pre-coated
Protocol:	human EGFR ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for EGFR has been precoated onto 96-well plates. Standards(NSO, M1-S645) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for EGFR is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human EGFR amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 313pg/mL, 156pg/mL human EGFR standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each

Application Details

	properly diluted sample of human cell culture supernates, serum, plasma(heparin, EDTA) or human milk to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human EGFR standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(ng/ml): 1.37, Standard deviation: 0.053, CV(%): 3.9 • Sample 2: n=16, Mean(ng/ml): 4.68, Standard deviation: 0.211, CV(%): 4.5 • Sample 3: n=16, Mean(ng/ml): 6.21, Standard deviation: 0.329, CV(%): 5.3, • Sample 1: n=24, Mean(ng/ml): 1.49, Standard deviation: 0.073, CV(%): 4.7 • Sample 2: n=24, Mean(ng/ml): 4.92, Standard deviation: 0.32, CV(%): 6.5 • Sample 3: n=24, Mean(ng/ml): 7.14, Standard deviation: 0.614, CV(%): 8.6
Restrictions:	For Research Use only

Handling

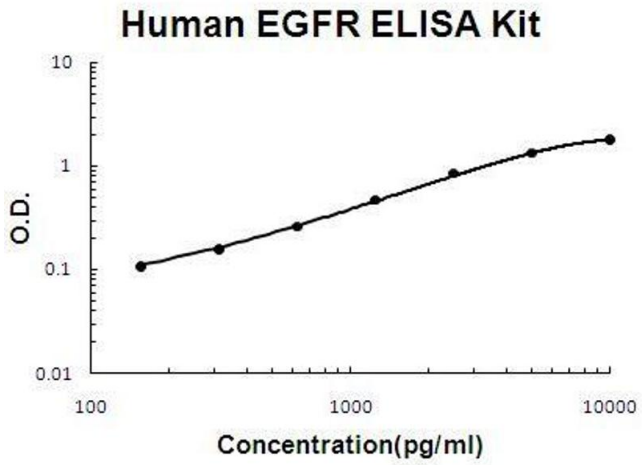
Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

Publications

Product cited in:	Zhang, Mao, Zhang, Ye, Tong, Su, Zhu: "The inhibitory effect of a new scFv/tP protein as siRNA delivery system to target hWAPL in cervical carcinoma." in: **Molecular and cellular biochemistry**, Vol. 391, Issue 1-2, pp. 77-84, (2014) (PubMed). Achmad, Hanaoka, Yoshioka, Yamamoto, Tominaga, Araki, Ohshima, Oriuchi, Endo: "Predicting cetuximab accumulation in KRAS wild-type and KRAS mutant colorectal cancer using 64Cu-labeled cetuximab positron emission tomography." in: **Cancer science**, Vol. 103, Issue 3, pp. 600-5, (2012) (PubMed). Qin Li, Huang, Ping, Xu, Li, Dai: "Expression of midkine and endoglin in breast carcinomas with different immunohistochemical profiles." in: **APMIS : acta pathologica, microbiologica, et immunologica Scandinavica**, Vol. 119, Issue 2, pp. 103-10, (2011) (PubMed). Ge, Yu, Petitte, Zhang: "Epidermal growth factor-induced proliferation of chicken primordial germ cells: involvement of calcium/protein kinase C and NFKB1." in: **Biology of reproduction**,

Vol. 80, Issue 3, pp. 528-36, (2009) (PubMed).

Validation report #101868 for ELISA (ELISA)



ELISA

Image 1. Human EGFR PicoKine ELISA Kit standard curve