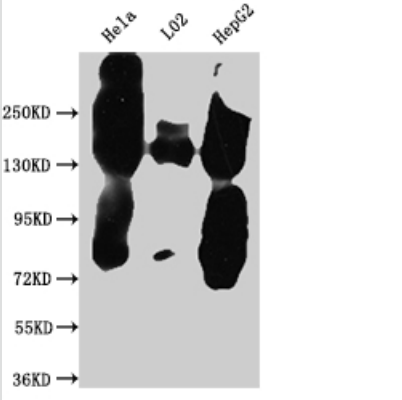
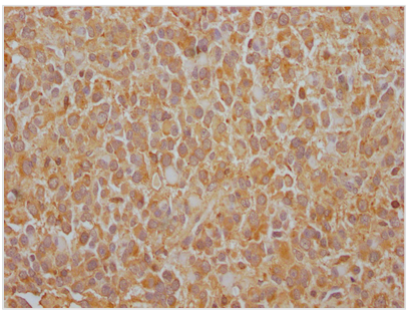
EGFR Recombinant Monoclonal Antibody

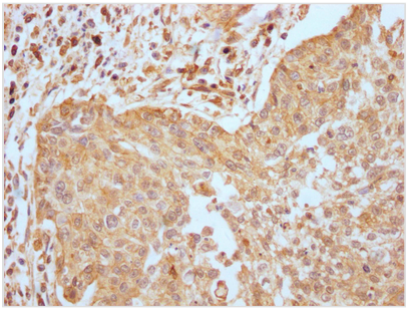
Product Code	CSB-RA794061A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P00533
Immunogen	A synthesized peptide derived from human EGFR
Species Reactivity	Human
Tested Applications	ELISA, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200
Relevance	Receptor 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. Plays a role in enhancing learning and memory performance (By similarity).
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Cancer; Signal transduction
Gene Names	EGFR
Clone No.	5D4
Image	



Western Blot
Positive WB detected in: Hela whole cell lysate, L02 whole cell lysate, HepG2 whole cell lysate
All lanes: EGFR antibody at 1:1000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 135, 45, 78, 70 kDa
Observed band size: 150 kDa



IHC image of CSB-RA794061A0HU diluted at 1:100 and staining in paraffin-embedded human glioma cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



IHC image of CSB-RA794061A0HU diluted at 1:100 and staining in paraffin-embedded human cervical cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

B lymphocytes were generated by immunizing an animal with a synthetic peptide derived from human EGFR and then fused with myeloma cells to generate hybridomas. The variable light and heavy domains of the resulting EGFR antibody-producing hybridomas were sequenced to construct a vector for recombinant production. The EGFR monoclonal antibody gene-containing vector was then transfected into cells for cultivation, and the resulting derived from human EGFR recombinant monoclonal antibody was purified using affinity chromatography from the cell culture supernatant. The purified antibody was found to be highly specific for human EGFR protein, as confirmed by ELISA, WB, and IHC assays.

The EGFR protein is a transmembrane receptor protein that plays a key role in the regulation of cell growth and division. When activated by ligands, such as EGF or TGF-alpha, EGFR initiates a signaling cascade that leads to the activation of downstream effectors, such as MAPK and PI3K, which ultimately result in changes in gene expression, cell proliferation, differentiation, and

survival. Abnormal activation of EGFR signaling has been implicated in various human diseases, including cancer.