

## EGFR VIII Protein, Human (FITC, HEK293, His-Avi)

<b>Cat. No.:</b>	HY-P78433
<b>Synonyms:</b>	ErbB; EC 2.7.10; EC 2.7.10.1; EGFR; mENA; LEGFR; ERBB; ERBB1; HER1; PIG61; NISBD2
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	P00533 (L25-S645)
<b>Gene ID:</b>	1956
<b>Molecular Weight:</b>	68-80 kDa

### PROPERTIES

<b>Biological Activity</b>	FACS Analysis of Anti-EGFRVIII CAR Expression. 293T cells were transfected with anti-EGFRVIII-scFv and His tag. Cells were incubated with 5µg/ml FITC-Labeled Human EGFRVIII, His Tag and FITC-labeled protein control. Non-transfected 293T cells and FITC-labeled protein control were used as negative control.
<b>Appearance</b>	Solution.
<b>Formulation</b>	Supplied as a 0.22 µm filtered solution of PBS, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	N/A.
<b>Storage &amp; Stability</b>	Stored at -80°C for 1 year, protect from light. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
<b>Shipping</b>	Shipping with dry ice.

### DESCRIPTION

#### Background

The EGFR protein, a receptor tyrosine kinase, binds ligands of the EGF family, including EGF, TGFA/TGF-alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG, and HBEGF/heparin-binding EGF. This interaction initiates cascades that convert extracellular signals into cellular responses, involving receptor homo- and/or heterodimerization and autophosphorylation on key cytoplasmic residues. The phosphorylated receptor recruits adapter proteins like GRB2, activating downstream signaling cascades, including RAS-RAF-MEK-ERK, PI3 kinase-AKT, PLCgamma-PKC, and STATs modules. Additionally, EGFR may trigger the NF-kappa-B signaling cascade and directly phosphorylate proteins like RGS16, activating its GTPase activity, potentially linking EGF receptor signaling to G protein-coupled receptor signaling. Furthermore, EGFR phosphorylates MUC1, enhancing its interaction with SRC and CTNNB1/beta-catenin. It positively regulates cell migration through interaction with CCDC88A/GIV, retaining EGFR at the cell membrane post-ligand stimulation, thereby promoting EGFR signaling and triggering cell migration. Beyond its canonical functions, EGFR contributes to enhancing learning and memory performance and plays a role in mammalian pain signaling, with isoform 2 potentially acting as an antagonist to EGF action.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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