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EGFR/HER1

Catalog # PVGS1762

Product Information

Primary Accession	Q01279
Species	Mouse
Sequence	Leu25-Ser647
Purity	> 95% as determined by Bis-Tris PAGE > 95% as determined by HPLC
Endotoxin Level	Less than 1EU per μg by the LAL method.
Biological Activity	EGFR/HER1, His, Mouse (Cat.No.: Z03922) captured on CM5 Chip via anti-his antibody can bind Mouse EGF, hFc Tag in SPR assay (Biacore T200).
Expression System	HEK293
Theoretical Molecular Weight	70.40 kDa
Formulation	Lyophilized from a 0.22 μm filtered solution in PBS, pH 7.4 .
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O more than 100 μg/ml.
Storage & Stability	Upon receiving, the product remains stable up to 6 months at -20 °C or below. Upon reconstitution, the product should be stable for 3 months at -80 °C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	13649
Other Names	Epidermal growth factor receptor, 2.7.10.1, Egfr {ECO:0000312|MGI:MGI:95294}
Target Background	The epidermal growth factor receptor is a transmembrane protein that is a receptor for members of the epidermal growth factor family of extracellular protein ligands. The epidermal growth factor receptor is a member of the ErbB family of receptors, a subfamily of four closely related receptor tyrosine kinases: EGFR, HER2/neu, Her 3 and Her 4. Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses.

Protein Information

Name	Egfr {ECO:0000312|MGI:MGI:95294}
Function	Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses (PubMed:8404850). Known ligands include EGF, TGFA/TGF-alpha, AREG, 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 (By similarity). Positively regulates cell migration via interaction with CCDC88A/GIV which retains EGFR at the cell membrane following ligand stimulation, promoting EGFR signaling which triggers cell migration (By similarity). Plays a role in enhancing learning and memory performance (PubMed:20639532). Plays a role in mammalian pain signaling (long- lasting hypersensitivity) (PubMed:35131940).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P00533}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P00533} Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P00533}; Single- pass type I membrane protein {ECO:0000250|UniProtKB:P00533}. Golgi apparatus membrane {ECO:0000250|UniProtKB:P00533}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P00533}. Nucleus membrane {ECO:0000250|UniProtKB:P00533}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P00533}. Endosome {ECO:0000250|UniProtKB:P00533}. Endosome membrane {ECO:0000250|UniProtKB:P00533}. Nucleus {ECO:0000250|UniProtKB:P00533} Note=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). {ECO:0000250|UniProtKB:P00533}