Recombinant Human EGFR His-tag

Catalog Number: 11302-ER

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human EGFR protein Leu25-Ser645, with a C-terminal 6-His tag Accession # CAA25240.1
N-terminal Sequence Analysis	Leu25
Predicted Molecular Mass	69 kDa

SPECIFICATIONS

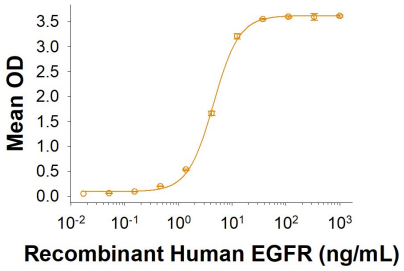
SDS-PAGE	94-104 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Human EGFR (Research Grade Cetuximab Biosimilar) Antibody (Catalog # MAB9577) is immobilized at 1 µg/mL (100 µL/well), Recombinant Human EGFR His-tag (Catalog # 11302-ER) binds with an ED_{50} of 1.25-15.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

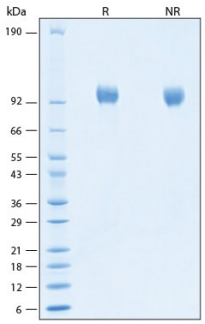
DATA

Binding Activity



Recombinant Human EGFR His-tag Protein Binding Activity. When Human EGFR (Research Grade Cetuximab Biosimilar) Antibody (Catalog # MAB9577) is immobilized at 1 µg/mL (100 µL/well), Recombinant Human EGFR His-tag (Catalog # 11302-ER) binds with an ED_{50} of 1.25-15.0 ng/mL.

SDS-PAGE



Recombinant Human EGFR His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human EGFR His-tag Protein (Catalog # 11302-ER) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 94-104 kDa.

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BACKGROUND

Epidermal growth factor receptor (EGFR), also known as HER-1 and ErbB1, is a member of a subfamily of receptor tyrosine kinases comprised of four members: EGFR, ErbB2 (Neu, HER-2), ErbB3 (HER-3), and ErbB4 (HER-4). All family members are type I transmembrane glycoproteins with an extracellular domain (ECD) containing two cysteine-rich domains separated by a spacer region and a cytoplasmic domain containing a tyrosine kinase domain followed by multiple tyrosine autophosphorylation sites (1, 2). Several soluble isoforms lacking the intracellular domain are generated by alternate splicing, along with a tumor specific mutant EGFRvIII, are known to exist (3-5). The ECD of mature, full-length EGFR shares 88% and 89% amino acid sequence identity with mouse and rat EGFR, respectively. EGFR binds a subset of the EGF family ligands, including EGF, amphiregulin, TGF-alpha, betacellulin, epiregulin, HB-EGF, and epigen (1, 2). Ligand binding induces EGFR homodimerization as well as heterodimerization with ErbB2, resulting in kinase activation, heterodimerization tyrosine phosphorylation and cell signaling (6-8). EGFR can also be recruited to form heterodimers with the ligand-activated ErbB3 or ErbB4. EGFR signaling regulates multiple biological functions including cell proliferation, differentiation, motility, and apoptosis (6-8). EGFR is overexpressed in a wide variety of tumors, with EGFRvIII overexpressed particularly in glioblastoma multiforme (GMB) and is the target of several anti-cancer therapeutics (5,9,10).

References:

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