Biotinylated Recombinant Human EGFR His-tag

Catalog Number: BT11302

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
Structure / Form	Biotinylated via amines
Predicted Molecular Mass	69 kDa

SPECIFICATIONS

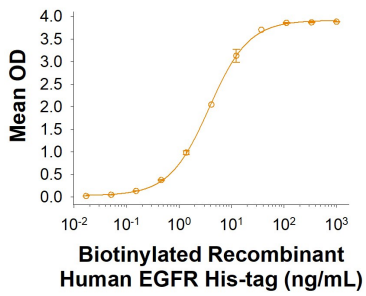
SDS-PAGE	90-105 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human EGFR His-tag (Catalog # BT11302) binds Human EGFR (Research Grade Cetuximab Biosimilar) Antibody (Catalog # MAB9577) with an ED_{50} of 1.50-18.0 ng/mL.
Endotoxin 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 water.
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.

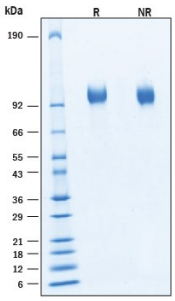
DATA

Binding Activity



Biotinylated Recombinant Human EGFR His-tag Protein Binding Activity. Biotinylated Recombinant Human EGFR His-tag Protein (Catalog # BT11302) binds Human EGFR (Research Grade Cetuximab Biosimilar) Antibody (Catalog # MAB9577) with an ED_{50} of 1.50-18.0 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human EGFR His-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human EGFR His-tag Protein (Catalog # BT11302) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 90-105 kDa, under reducing conditions.

Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475

Biotinylated Recombinant Human EGFR His-tag

Catalog Number: BT11302

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:

1. Singh, A.B. and R.C. Harris (2005) Cell. Signal. **17**:1183.
2. Shilo, B.Z. (2005) Development **132**:4017.
3. Guillaudeau, A. *et al.* (2012) PLoS One. **7**:1.
4. Reiter J.L. *et al.* (2001) Genomics **71**:1.
5. Gan HK *et al.* (2013) FEBS J. **280**:5350
6. Freed, D. M. *et al.* (2017) Cell. 171:683.
7. Burgess, A.W. *et al.* (2003) Mol. Cell **12**:541.
8. Faria, J.A. *et al.* (2016) BBRC. **478**:39.
9. An Z. *et al.* (2018) Oncogene. **37**:1561.
10. Lee, C. K. *et al.* (2017) J. Thoracic Oncology. **12**:403.

Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475