

**DESCRIPTION**

**Source** Mouse myeloma cell line, NS0-derived rat EGFR protein  
Leu25-Ile647, with a C-terminal 6-His tag  
Accession # NP\_113695.1

**N-terminal Sequence Analysis** Leu25

**Structure / Form** Disulfide-linked homodimer

**Predicted Molecular Mass** 70 kDa

**SPECIFICATIONS**

**SDS-PAGE** 95-115 kDa, under reducing conditions.

**Activity** Measured by its binding ability in a functional ELISA.  
Recombinant Rat EGFR His-tag binds to Recombinant Rat EGF Protein (Catalog # 3214-EG) with an ED<sub>50</sub> of 0.750-7.50 µg/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.

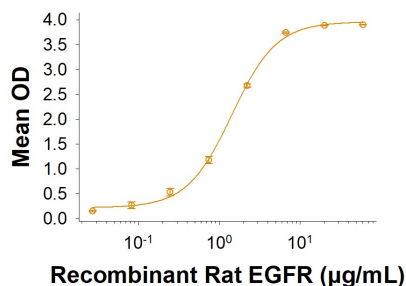
**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**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.

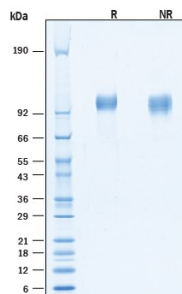
**DATA**

**Binding Activity**



**Recombinant Rat EGFR His-tag Protein Binding Activity.** Measured by its binding ability in a functional ELISA. Recombinant Rat EGFR His-tag Protein (Catalog # 11523-ER) binds to Recombinant Rat EGF Protein (Catalog # 3214-EG) with an ED<sub>50</sub> of 0.750-7.50 µg/mL.

**SDS-PAGE**



**Recombinant Rat EGFR His-tag Protein SDS-PAGE.** 2 µg/lane of Recombinant Rat EGFR His-tag Protein (Catalog # 11523-ER) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 95-115 kDa, under reducing conditions.

**BACKGROUND**

Epidermal growth factor receptor (EGFR) is a member of a subfamily of receptor tyrosine kinases comprised of four members: EGFR (also known as HER-1, ErbB1, or ErbB), 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 (3, 4). The mature ECD of rat EGFR shares 89% and 95% amino acid sequence identity with human and mouse 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 (5-7). 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 (5-7). EGFR is overexpressed in a wide variety of tumors and is the target of several anti-cancer drugs (8).

**References:**

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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. Freed, D.M. *et al.* (2017) *Cell.* **171**:683.
6. Burgess, A.W. *et al.* (2003) *Mol. Cell* **12**:541.
7. Faria, J.A. *et al.* (2016) *BBRC.* **478**:39.
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