# Recombinant Human EGFR Isoform vIII

**Catalog Number:** 9565-ER

## Description

**Source:** Mouse myeloma cell line, NS0-derived
Leu25–Ser378 (Asn273Lys), with a C-terminal 6-His tag
Accession #: NP_001333870

**N-terminal Sequence Analysis:** Leu25

**Predicted Molecular Mass:** 39 kDa

## Specifications

**SDS-PAGE:** 65 - 80 kDa, reducing conditions

**Activity:** Bioassay data are not available.

**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. See Certificate of Analysis for details.

## Preparation and Storage

**Reconstitution:** Reconstitute at 250 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

**Bioactivity not tested**

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R&D Systems proteins are almost always sold with a bioassay to indicate activity. However, we recognize that sometimes proteins might be novel, and their bioactivity may not be well understood. In addition, some researchers may wish to use polypeptides to make antibodies. To facilitate the advancement of new science, we now offer our Innovator Series of proteins.

## Background

The epidermal growth factor receptor (EGFR) subfamily of receptor tyrosine kinases comprises four members: EGFR (also known as HER1, ErbB1 or ErbB), ErbB2 (Neu, HER2), ErbB3 (HER3), and ErbB4 (HER4). All family members are type I transmembrane glycoproteins that have an extracellular domain which contains two cysteine-rich domains separated by a spacer region that is involved in ligand binding, and a cytoplasmic domain which has a membrane-proximal tyrosine kinase domain and a C-terminal tail with multiple tyrosine autophosphorylation sites. The human EGFR gene encodes a 1210 amino acid (aa) residue precursor with a 24 aa putative signal peptide, a 621 aa extracellular domain, a 23 aa transmembrane domain, and a 542 aa cytoplasmic domain (1-3). Human EGFR shares 90% identity with mouse and rat EGFR. The amino acid 25-378 of EGFR encodes the most common extracellular domain truncation mutant, termed EGFRvIII. It has been proved that EGFRvIII is relevant in a number of cancer types. EGFRvIII is tumor specific, and has not been found in normal tissues. EGFRvIII is highly tumorigenic, and can cause aggressive tumor phenotype, with increased invasion, proliferation, angiogenesis, and evasion of apoptosis. This EGFRvIII-mediated enhanced tumourigenicity combined with the lack of EGFRvIII expression in normal tissue makes it an ideal therapeutic target (4).

**References:**