**Product Information**

**Epidermal Growth Factor Receptor**
**human**

Catalog Numbers **E2645 and E3641**

**Synonym:** EGFR

**Product Description**
These products are the mature glycosylated receptor molecule with a molecular mass of ~170 kDa. The amino acid sequence has been published.¹ The protein is a single chain polypeptide having a molecular mass of ~131.6 kDa based on the amino acid sequence. The remainder of the mass is due to glycosylation of the protein.² The receptor isolation procedure, structure, functions and regulation, cellular physiology, and receptor related molecules have been published.²

The EGF receptor is a large, membrane-bound glycoprotein with an extracellular domain that exhibits tyrosine kinase activity. Overexpression of the receptor can produce a neoplastic phenotype in cells and has been associated with poor prognosis or short survival time in patients with a number of types of cancer.

EGFR protein tyrosine kinase is activated when the extracellular binding domain is bound by EGF. The first detectable response is the autophosphorylation of the C-terminal tyrosines followed by phosphorylation of exogeneous substrates. The phosphorylated sequences of EGFR and other receptor tyrosine kinases have a high affinity for SH2 domain containing proteins. These proteins are phosphorylated and activated by the receptor tyrosine kinases.³ Activation of EGFR can be achieved in the absence of EGF by receptor dimerization with antibody⁴ or by 10 mM Mn²⁺.

These products are affinity purified from human carcinoma A431 cells in the absence of EGF and EGF is not used to elute the material from the purification column. Nevertheless, this product is activated during purification. Therefore, there is only 10–20% activation of the tyrosine kinase activity when EGF is added to this preparation.

**Unit Definition:** One unit will catalyze the incorporation of 1 pmole of phosphate from γ-³²P-ATP into poly (Glu, Tyr), 4:1 at 30 °C per minute.

**Precautions and Disclaimer**
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

**Catalog Number E2645**
This product is supplied as a lyophilized powder.

**Preparation Instructions**
The product is soluble in 10% glycerol (50 mg/ml).

Reconstitution with 0.1 ml of 10% glycerol yields a solution in 50 mM HEPES, pH 7.6, 150 mM NaCl, 0.05% Triton® X-100, 1 mM DTT, and 10% treholase (cryoprotectant). This solution, prepared immediately upon initial thawing, can be divided into small aliquots and remains active for at least 1 year when stored at –70 °C.

**Storage/Stability**
The product ships on dry ice and storage at –20 °C is recommended. The product, as supplied, remains active for 5 years when stored properly. The activity decreases with more than one freeze/thaw cycle.

**Catalog E3641**
The product is supplied in a solution of 50% glycerol with 50 mM HEPES, pH 7.6, 150 mM NaCl, 0.1% Triton X-100, and 1mM DTT.

**Storage/Stability**
The product ships on dry ice and storage at –70 °C is recommended. The product, as supplied, remains active for 2 years when stored properly. The activity decreases with more than one freeze/thaw cycle. The product should be kept on ice when in use.
References


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