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#8628

# SignalKine™ Human EGF Chemiluminescent Sandwich ELISA Kit

Species Cross Reactivity: H    UniProt ID: #P01133    Entrez-Gene ID: #1950

**For Research Use Only. Not for Use in Diagnostic Procedures.**

Product Includes	Product #	Quantity	Color	Storage Temp
ELISA Wash Buffer (20X)	9801	25 ml	Colorless	+4C
Luminol/Enhancer Solution	84850	3 ml	Colorless	RT
Stable Peroxide Buffer	42552	3 ml	Colorless	RT
Sealing Tape	54503	2 ea		+4C

## Description

SignalKine™ Human EGF Chemiluminescent Sandwich ELISA Kit is a solid phase sandwich enzyme-linked immunosorbent assay (ELISA) that detects human EGF (hEGF) in multiple matrices. Unknown samples being tested for hEGF and hEGF standards are added to low volume microwells, where the hEGF is captured by the coated hEGF Rabbit mAb. Following a washing step, a biotinylated hEGF Detection Rabbit mAb is added to detect the captured hEGF. HRP-linked Streptavidin is then used for detection of the biotinylated hEGF Detection Rabbit mAb. A chemiluminescent reagent is added for signal development. The magnitude of light emission, measured in relative light units (RLU) is proportional to the quantity of human EGF in the sample.

SignalKine™ Human EGF Chemiluminescent Sandwich ELISA Kit detects hEGF in multiple matrices that can be quantified by generating a standard curve with the recombinant hEGF protein standard provided. The hEGF standard range is from 0.6 to 2500 pg/ml. Samples containing higher levels of hEGF can be diluted to fit into the standards range.

## Background

Epidermal growth factor (EGF) is a small polypeptide hormone that has mitogenic properties *in vivo* and *in vitro*, modifying the growth and/or differentiation of many cell types. EGF elicits biologic responses by binding to its cell surface receptor, a transmembrane glycoprotein containing a cytoplasmic protein tyrosine kinase domain (1,2). The binding of EGF to the EGF receptor promotes dimerization of the receptor, autophosphorylation, and activation of downstream signaling components (3). The integrated biological responses to EGF signaling are pleiotropic, including mitogenesis, apoptosis, enhanced cell motility, protein secretion, differentiation, and dedifferentiation. In addition, EGF has been implicated in organ morphogenesis, maintenance, and repair. Moreover, activation of EGF receptor signaling has been correlated with progression to invasion and metastasis in a wide variety of tumors (4-6). Research studies have identified EGF receptor and its downstream signaling molecules as potential targets for therapeutic interventions in wound repair and cancer (4-6).

## Background References

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2. Boulougouris, P. and Elder, J. *Anticancer Res* 21, 2769-75.
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4. Sarries, C. et al. (2002) *Pharmacogenomics* 3, 763-80.
5. Lorimer, I.A. (2002) *Curr Cancer Drug Targets* 2, 91-102.
6. Ghaneh, P. et al. (2002) *J Hepatobiliary Pancreat Surg* 9, 1-11.

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Revision 1

# #8628

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