

Product datasheet

Rat EGF ELISA Kit ab239424

SimpleStep ELISA

[4 Images](#)

Overview

Product name Rat EGF ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
urine	8			2.8%

Inter-assay

Sample	n	Mean	SD	CV%
urine	3			3.2%

Sample type Cell culture supernatant, Urine, Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 1 pg/ml

Range 2 pg/ml - 260 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Urine	109	104% - 113%
Serum	90	87% - 93%
Cell culture media	105	104% - 106%
Hep Plasma	83	81% - 84%
EDTA Plasma	96	95% - 99%
Cit plasma	97	96% - 99%

Assay time	1h 30m
Assay duration	One step assay
Species reactivity	Reacts with: Rat
Product overview	EGF <i>in vitro</i> SimpleStep ELISA [®] (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of EGF protein in rat serum, plasma, urine, and cell culture supernatants.

The SimpleStep ELISA[®] employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB Development Solution is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

Rat Pro-EGF (Pro-epidermal growth factor) is a large 1112 amino acid group 1 member of the EGF family growth factors. All EGF family growth factors are synthesized as transmembrane proteins that undergo proteolytic processing to generate soluble forms. Rat EGF is a 53 amino acid long fragment of the extracellular domain of EGF precursor. As other group 1 members, EGF binds to, and activates the EGF receptor. This promotes EGFR dimerization. EGF has variety of diverse physiological effects. EGF activity is complicated by the fact that other EGF family members utilize EGF receptor. EGF stimulates the growth of various epidermal and epithelial tissues *in vivo* and *in vitro* and of some fibroblasts in cell culture. EGF is proposed to affect growth and/or differentiation of many other fetal and adult tissues.

Sensitivity:

Samples diluted in Sample Diluent NS: 1.1 pg/mL

Samples diluted Sample Diluent 50BP: 1.0 pg/mL

Platform Pre-coated microplate (12 x 8 well strips)

Properties

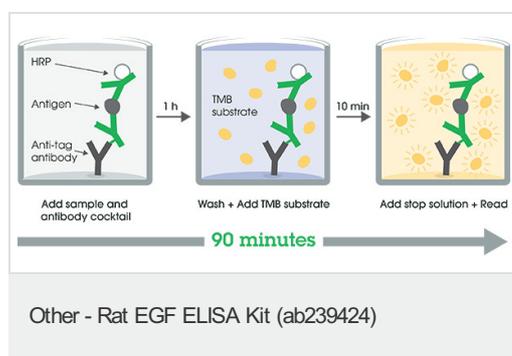
Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Rat EGF Capture Antibody	1 x 600µl
10X Rat EGF Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml

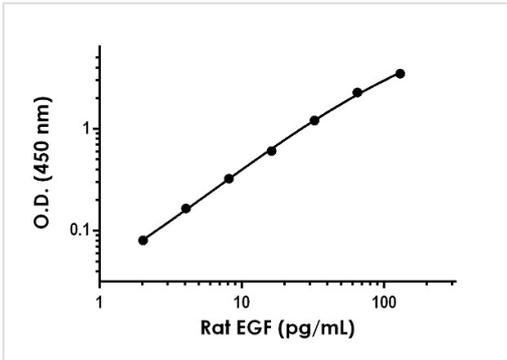
Components	1 x 96 tests
Antibody Diluent 5BR	1 x 6ml
Plate Seals	1 unit
Rat EGF Lyophilized Recombinant Protein	2 vials
Sample Diluent 50BP	1 x 20ml
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function	EGF stimulates the growth of various epidermal and epithelial tissues in vivo and in vitro and of some fibroblasts in cell culture. Magnesiotropic hormone that stimulates magnesium reabsorption in the renal distal convoluted tubule via engagement of EGFR and activation of the magnesium channel TRPM6. Can induce neurite outgrowth in motoneurons of the pond snail <i>Lymnaea stagnalis</i> in vitro (PubMed:10964941).
Tissue specificity	Expressed in kidney, salivary gland, cerebrum and prostate.
Involvement in disease	Hypomagnesemia 4
Sequence similarities	Contains 9 EGF-like domains. Contains 9 LDL-receptor class B repeats.
Post-translational modifications	O-glycosylated with core 1-like and core 2-like glycans. It is uncertain if Ser-954 or Thr-955 is O-glycosylated. The modification here shows glycan heterogeneity: HexHexNAc (major) and Hex2HexNAc2 (minor).
Cellular localization	Membrane.

Images

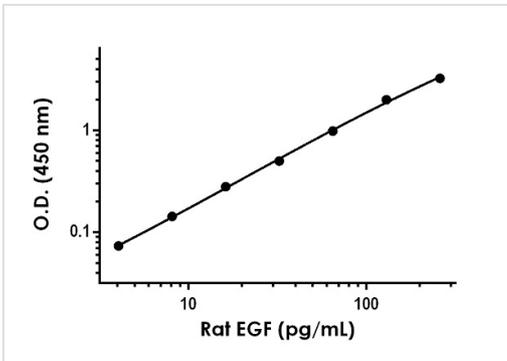


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



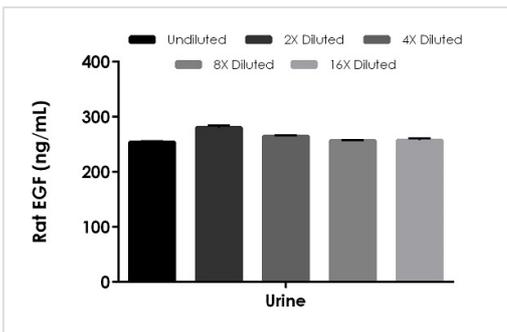
Example of rat EGF standard curve in Sample Diluent NS.

The EGF standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Example of rat EGF standard curve in Sample Diluent 50BP.

The EGF standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Interpolated concentrations of native EGF in rat urine samples.

The concentrations of EGF were measured in duplicates, interpolated from the EGF standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 1:2,000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean EGF concentration was determined to be 262.7 ng/mL in neat rat urine.

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