



Product Information Sheet

Mouse EGF ELISA Kit

Catalog No.	EK0326
Size	96T
Range	15.6pg/ml-1000pg/ml
Sensitivity	< 1pg/ml

Specificity

No detectable cross-reactivity with other cytokine.

Storage

Store at 4°C for frequent use, at -20°C for infrequent use.

Avoid multiple freeze-thaw cycles (Shipped with wet ice.)

Expiration

Four months at 4°C and eight months at -20°C.

Application

For quantitative detection of mouse EGF in sera, plasma, body fluids, tissue lysates or cell culture supernates.

Principle

Mouse EGF ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Mouse EGF specific-specific monoclonal antibodies were precoated onto 96-well plates. The mouse specific detection polyclonal antibodies were biotinylated. The test samples and biotinylated detection antibodies were added to the wells subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the mouse EGF amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant mouse EGF standard: 10ng/tubex2.
2. One 96-well plate precoated with anti- mouse EGF antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- mouse EGF antibody: 130µl, dilution 1:100.
5. Antibody diluent buffer: 12ml.
6. Avidin-Biotin-Peroxidase Complex (ABC): 130µl, dilution 1:100.
7. ABC diluent buffer: 12ml.
8. TMB color developing agent: 10ml.
9. TMB stop solution: 10ml.

Material Required But Not Provided

1. Microplate reader in standard size.
2. Automated plate washer.
3. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection.
4. Clean tubes and Eppendorf tubes.
5. Washing buffer (neutral PBS or TBS).

Preparation of 0.01M **TBS**: Add 1.2g Tris, 8.5g NaCl; 450µl of purified acetic acid or 700µl of concentrated hydrochloric acid to 1000ml H₂O and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

Preparation of 0.01 M **PBS**: Add 8.5g sodium chloride, 1.4g Na₂HPO₄ and 0.2g NaH₂PO₄ to 1000ml distilled water and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

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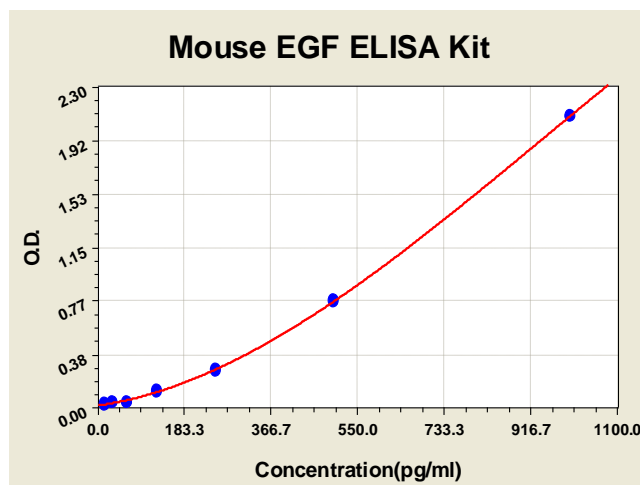
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Notice for Application of Kit

1. Before using Kit, spin tubes and bring down all components to bottom of tube.
2. Duplicate well assay was recommended for both standard and sample testing.
3. Don't let 96-well plate dry, dry plate will inactivate active components on plate.
4. In order to avoid marginal effect of plate incubation due to temperature difference (reaction may be stronger in the marginal wells), it is suggested that the diluted ABC and TMB solution will be pre-warmed in 37°C for 30 min before using.

Mouse EGF ELISA Kit-1X96 Well Plate Image



Background

Epidermal growth factor or EGF is a growth factor that plays an important role in the regulation of cell growth, proliferation, and differentiation by binding to its receptor EGFR. Human EGF is a 6045-Da protein with 53 amino acid residues and three intramolecular disulfide bonds.¹ EGF acts by binding with high affinity to epidermal growth factor receptor (EGFR) on the cell surface and stimulating the intrinsic protein-tyrosine kinase activity of the receptor. EGF results in cellular proliferation, differentiation, and survival.² It also has a profound effect on the differentiation of specific cells in vivo and is a potent mitogenic factor for a variety of cultured cells of both ectodermal and mesodermal origin.³ EGF has strong expression in kidney, salivary gland, cerebrum, and prostate, moderate expression in trachea and thyroid, and low expression in bone marrow, heart, spleen, thymus, uterus, and colon. No expression was detected in adrenal gland, liver, lung, cerebellum, placenta, and small intestine.⁴

Reference

1. Carpenter G, Cohen S (May 1990). "Epidermal growth factor". *The Journal of Biological Chemistry* 265 (14): 7709–12.
2. Herbst RS (2004). "Review of epidermal growth factor receptor biology". *International Journal of Radiation Oncology, Biology, Physics* 59 (2 Suppl): 21–6.
3. Carpenter, G.; Cohen, S.: Epidermal growth factor. *Ann. Rev. Biochem.* 48: 193-216, 1979.
4. Groenestege, W. M. T.; Thebault, S.; van der Wijst, J.; van den Berg, D.; Janssen, R.; Tejpar, S.; van den Heuvel, L. P.; van Cutsem, E.; Hoenderop, J. G.; Knoers, N. V.; Bindels, R. J. : Impaired basolateral sorting of pro-EGF causes isolated recessive renal hypomagnesemia. *J. Clin. Invest.* 117: 2260-2267, 2007.

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