Product Information Sheet

Human Cardiotrophin-1 ELISA Kit

Catalog No. EK0563

Size 96T

Range 31.2pg/ml-2000pg/ml

Sensitivity < 10pg/ml

Specificity

No detectable cross-reactivity with any other cytokine.

Storage

Store at 4℃ for frequent use, at -20℃ for infrequent use.

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

Expiration

Two months at 4℃ and four months at -20℃.

Application

For quantitative detection of human CT-1 in sera, body fluids, tissue lysates or cell culture supernates.

To reorder contact us at:

Antagene, Inc.

Toll Free: 1(866)964-2589

Tel: (650) 964-2589

Fax: (650) 964-2519

email: Info@antageneinc.com

Principle

Human CT-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human CT-1 specific-specific polyclonal antibodies were precoated onto 96-well plates. The human 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 human CT-1 amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant human CT-1 standard: 10ng/tube×2.
2. One 96-well plate precoated with anti- human CT-1 antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- human CT-1 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 and Automated plate washer.
2. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended if there is a large amount of samples for detection.
3. Clean tubes and Eppendorf tubes.
4. 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 H_2O and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

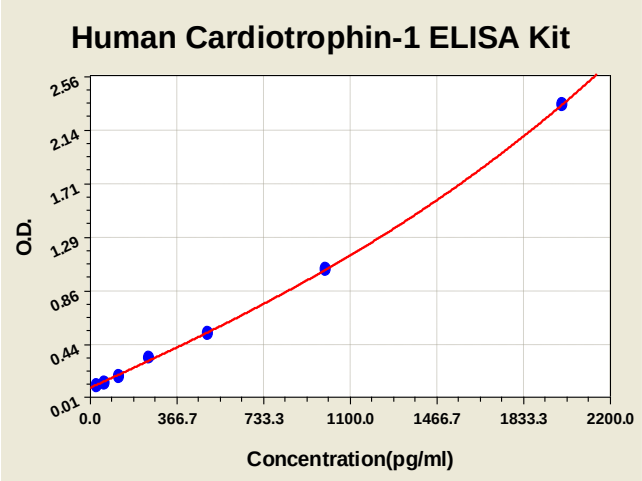
   Preparation of 0.01 M **PBS:** Add 8.5g sodium chloride, 1.4g Na_2HPO_4 and 0.2g NaH_2PO_4 to 1000ml distilled water and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

Product Information Sheet

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℃ for 30 min before using.

Human CT-1 ELISA Kit-1X96 Well Plate Image



Background

Cardiotrophin-1 (CT-1) is a member of the family of cytokines that includes leukemia inhibitory factor (LIF), ciliary neurotrophic factor (CNTF), oncostatin M (OSM), interleukin-6 (IL6), and interleukin-11 (IL11). And the CT-1 gene is mapped to 1p21-p13. The human CT-1 protein contains 201 amino acids and shares 80% amino acid identity with the 203-amino acid mouse CT-1 sequence; however, unlike the mouse protein, human CT-1 has 2 rather than 1 cys and has no N-glycosylation site[1]. Despite lacking a signal sequence, secreted CT-1 and mouse CT-1 induce cardiac myocyte hypertrophy in cell culture and bind to both mouse and human LIFR but not to OSMR. Furthermore, A 1.7-kb CT-1 transcript was detected at high levels in heart, skeletal muscle, prostate, and ovary. Low levels were detected in lung, kidney, pancreas, thymus, testis, and small intestine, with little or no expression detected in brain, placenta, spleen, colon, and peripheral blood leukocytes. And it was also observed strong expression in fetal lung and kidney[1].

Reference

1. Pennica, D.; Swanson, T. A.; Shaw, K. J.; Kuang, W.-J.; Gray, C. L.; Beatty, B. G.; Wood, W. I. : Human cardiotrophin-1: protein and gene structure, biological and binding activities, and chromosomal localization. *Cytokine* 8: 183-189, 1996.