



Product Information Sheet

Human TGF α ELISA Kit

Catalog No.	EK0511
Size	96T
Range	15.6pg/ml-1000pg/ml
Sensitivity	< 1pg/ml

Specificity

Cross-reactivates with TGF β 2, TGF β 3, TGF β 5 <1%.

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 human TGF α in sera, plasma, body fluids, tissue lysates or cell culture supernates.

Principle

Human TGF α ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human TGF α specific polyclonal antibodies were pre-coated 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 TGF α amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant human TGF α standard: 10ng/tubex2.
2. One 96-well plate pre-coated with anti-human TGF α antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti-human TGF α antibody : 130 μ l, dilution 1:100.
5. Antibody diluent buffer: 12ml.
6. Avidin-Biotin-Peroxidase Complex (ABC) : 130 μ l, 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 are 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; 450 μ l of purified acetic acid or 700 μ l 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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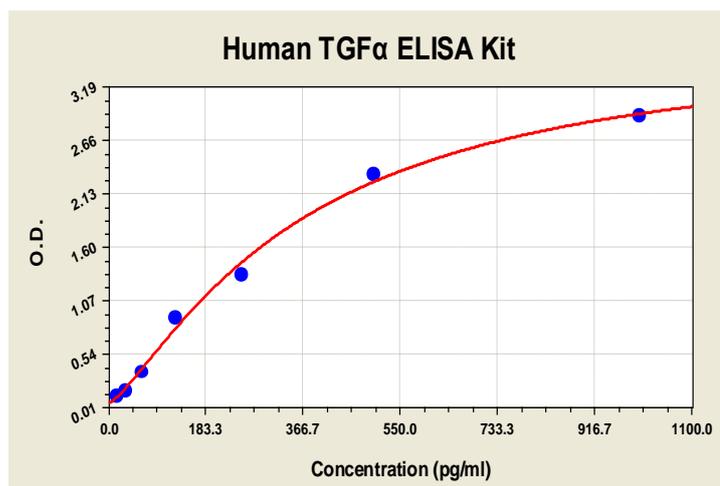
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Notice for Application of Kit

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.

Human TGF α ELISA Kit-1X96 Well Plate Image



Background

Transforming growth factor alpha (TGF- α) is upregulated in some human cancers. It is produced in macrophages, brain cells, and keratinocytes, and induces epithelial development. It is closely related to EGF, and can also bind to the EGF receptor with similar effects. TGF α stimulates neural cell proliferation in the adult injured brain.¹ Transforming growth factor alpha gene (TGFA) maps to human chromosome 2 close to the breakpoint of the t(2;8) variant translocation in Burkitt lymphoma.² Synthetic TGF-alpha was as active as murine epidermal growth factor in binding to the epidermal growth factor receptor and in stimulation of anchorage-dependent and of anchorage-independent growth of normal indicator cells in culture. Synthetic TGF-alpha stimulated plasminogen activator production in A 431 and HeLa cells; the stimulation was similar to that induced by epidermal growth factor. Furthermore, synthetic human TGF-alpha showed similar immunoreactivity when compared with rat TGF-alpha. Thus, the 50-amino acid TGF-alpha is likely to be the bioactive principle produced and secreted by tumor cell lines.³

Reference

1. In vivo induction of massive proliferation, directed migration, and differentiation of neural cells in the adult mammalian brain. Proc Natl Acad Sci USA. 2000 Dec 19; 97(26): 14686-91;
2. Brissenden, J. E., Derynck, R., Francke, U. Transforming growth factor alpha gene (TGFA) maps to human chromosome 2 close to the breakpoint of the t(2;8) variant translocation in Burkitt lymphoma. Cytogenet. Cell Genet. 40: 589-only, 1985.
3. Tam, J. P., Scheikh, M. A., Solomon, D. S., Ossowski, L. Efficient synthesis of human type alpha transforming growth factor: its physical and biological characterization. Proc. Nat. Acad. Sci. 83: 8082-8086, 1986.

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