

Human Leptin receptor ELISA Kit

Catalog No. GWB-ZZD058
Size 96T
Range 156pg/ml-10,000pg/ml
Sensitivity < 8 pg/ml

Specificity

No detectable cross-reactivity with any 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 human Leptin receptor in sera, plasma, body fluids, tissue lysates or cell culture supernates.

Principle

GenWay's human Leptin receptor ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human Leptin receptor specific-specific monoclonal antibodies (clone No. 52263) 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 Leptin receptor amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant human LeptinR standard: 10ng/tube×2.
2. One 96-well plate precoated with anti- human LeptinR antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- human LeptinR 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.

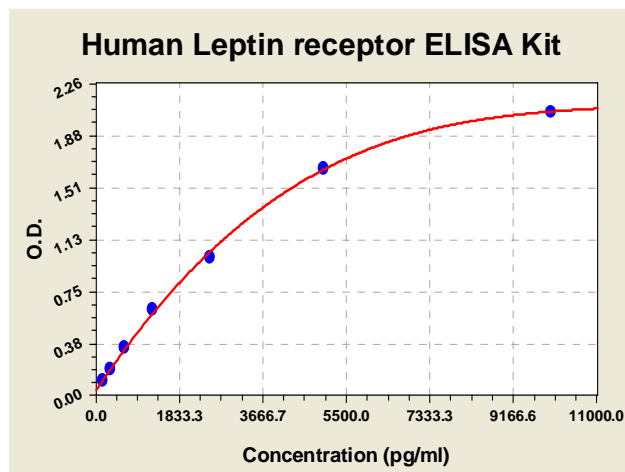
Preparation of 0.01 M **PBS**: Add 8.5g sodium chloride, 1.4g Na₂HPO₄ and 0.2g NaH₂PO₄ to 1000ml distilled water and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

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°C for 30 min before using.

Human Leptin receptor ELISA Kit-1X96 Well Plate Image



Background

Leptin receptor (or Obese receptor, OBR) is a single membrane-spanning receptor most related to the gp130 signal-transducing component of the IL-6 receptor, the G-CSF receptor, and the LIF receptor. OB-R mRNA is expressed not only in choroid plexus, but also in several other tissues, including hypothalamus.¹ Leptin acts through the leptin receptor, a single-transmembrane domain receptor of the cytokine-receptor family.² Leptin controls energy balance and food intake through the leptin receptor in the hypothalamus of the brain, which suggests that some polymorphisms of the leptin receptor gene (LEPR) might contribute to obesity or obesity-related diseases.³ Leptin is also involved in the regulation of blood pressure through the leptin receptor.⁴

Reference

1. Tartaglia, L. A.; Dembski, M.; Weng, X.; Deng, N.; Culpepper, J.; Devos, R.; Richards, G. J.; Campfield, L. A.; Clark, F. T.; Deeds, J.; Muir, C.; Sanker, S.; Moriarty, A.; Moore, K. J.; Smutko, J. S.; Mays, G. G.; Woolf, E. A.; Monroe, C. A.; Tepper, R. I. Identification and expression cloning of a leptin receptor, OB-R. *Cell* 83: 1263-1271, 1995.
2. Clement, K.; Vaisse, C.; Lahlou, N.; Cabrol, S.; Pelloux, V.; Cassuto, D.; Gormelen, M.; Dina, C.; Chambaz, J.; Lacorte, J.-M.; Basdevant, A.; Bougneres, P.; Lebouc, Y.; Froguel, P.; Guy-Grand, B. A mutation in the human leptin receptor gene causes obesity and pituitary dysfunction. *Nature* 392: 398-401, 1998.
3. Park, K. S.; Shin, H. D.; Park, B. L.; Cheong, H. S.; Cho, Y. M.; Lee, H. K.; Lee, J.-Y.; Lee, J.-K.; Oh, B.; Kimm, K. Polymorphisms in the leptin receptor (LEPR)--putative association with obesity and T2DM. *J. Hum. Genet.* 51: 85-91, 2006.
4. Rosmond, R.; Chagnon, Y. C.; Holm, G.; Chagnon, M.; Perusse, L.; Lindell, K.; Carlsson, B.; Bouchard, C.; Bjorntorp, P. Hypertension in obesity and the leptin receptor gene locus. *J. Clin. Endocr. Metab.* 85: 3126-3131, 2000.