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Product Information Sheet

Human VEGFR1 ELISA Kit

Catalog No. EK0543

Size 96T

Range 156pg/ml-10, 000pg/ml

Sensitivity < 4pg/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

Four months at 4℃ and eight months at -20℃.

Application

For quantitative detection of human VEGFR1 in sera, plasma, body fluids, tissue lysates or cell culture supernates.

Principle

Human VEGFR1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human VEGFR1 specific-specific monoclonal 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 VEGFR1 amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant human VEGFR1 standard: 10ng/tube×2.
2. One 96-well plate precoated with anti- human VEGFR1 antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- human VEGFR1 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.

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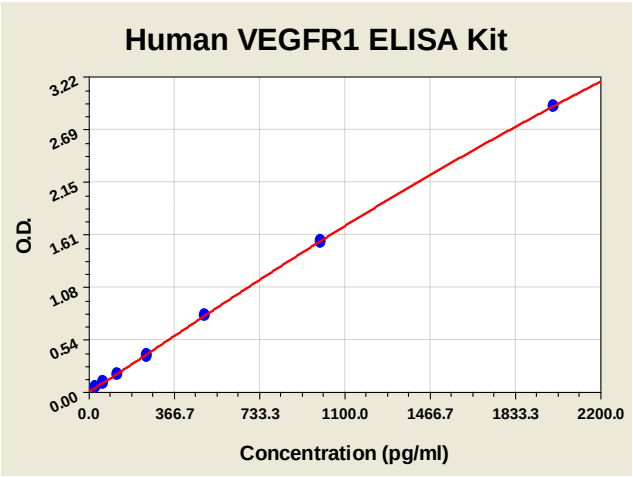
Notice for Application of Kit

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℃ for 30 min before using.

Human VEGFR1 ELISA Kit-1X96 Well Plate Image



Background

VEGFR1, also known as FMS-related tyrosine kinase 1(FLT1). Oncogene FLT belongs to the src gene family and is related to oncogene ROS . Like other members of this family, it shows tyrosine protein kinase activity that is important for the control of cell proliferation and differentiation. FLT is mapped to 13q12. VEGF receptor 1 signaling is essential for osteoclast development and bone marrow formation in colony-stimulating factor 1-deficient mice. The standard product used in this kit is recombinant human VEGFR1, consisting of 905 amino acids with the molecular mass of 100KDa

Reference

1. Imbert, A.; Rosnet, O.; Marchetto, S.; Ollendorff, V.; Birnbaum, D.; Pebusque, M.-J. : Characterization of a yeast artificial chromosome from human chromosome band 13q12 containing the FLT1 and FLT3 receptor-type tyrosine kinase genes. Cytogenet. Cell Genet. 67: 175-177, 1994.
2. Niida, S.; Kondo, T.; Hiratsuka, S.; Hayashi, S.-I.; Amizuka, N.; Noda, T.; Ikeda, K.; Shibuya, M. : VEGF receptor 1 signaling is essential for osteoclast development and bone marrow formation in colony-stimulating factor 1-deficient mice. Proc. Nat. Acad. Sci. 102: 14016-14021, 2005.