

## Human IGF-2 ELISA Kit

**Catalog No.** EK0379  
**Size** 96T  
**Range** 62.5pg/ml-4000pg/ml  
**Sensitivity** < 2pg/ml

### **Specificity**

No detectable cross-reactivity with IGF-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 IGF-2 in serum, plasma, body fluids, tissue lysates or cell culture supernates.

### **Principle**

Boster's human IGF-2 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human IGF-2 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 IGF-2 amount of sample captured in plate.

### **Kit Components**

1. Lyophilized recombinant human IGF-2 standard: 10ng/tubex2.
2. One 96-well plate precoated with anti- human IGF-2 antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- human IGF-2 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 H<sub>2</sub>O and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

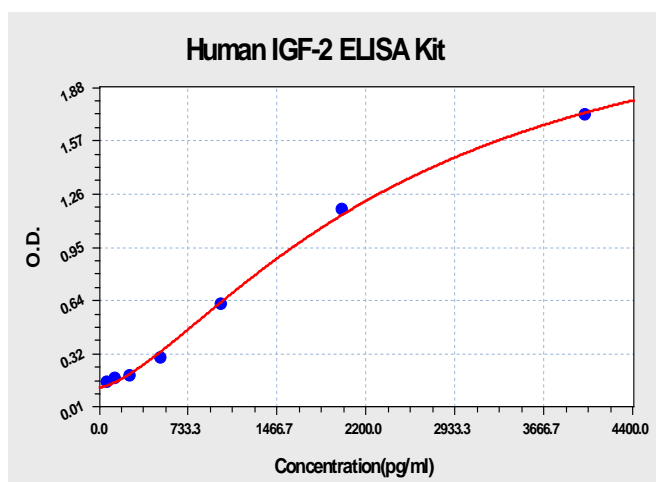
Preparation of 0.01 M **PBS**: Add 8.5g sodium chloride, 1.4g Na<sub>2</sub>HPO<sub>4</sub> and 0.2g NaH<sub>2</sub>PO<sub>4</sub> to 1000ml distilled water and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

# Product Information Sheet

## Notice for Application of Kit

1. To inspect the validity of experiment operation and the appropriateness of sample dilution proportion, pilot experiment using standards and a small number of samples is recommended.
2. The TMB Color Developing agent is colorless and transparent before using, contact us freely if it is not the case.
3. Before using the Kit, spin tubes and bring down all components to the bottom of tubes.
4. Duplicate well assay is recommended for both standard and sample testing.
5. Don't let 96-well plate dry, for dry plate will inactivate active components on plate.
6. Don't reuse tips and tubes to avoid cross contamination.
7. To avoid to use the reagents from different batches together.
8. 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 IGF-2 ELISA Kit-1X96 Well Plate Image



## Background

Insulin-like growth factor II is also known as somatomedin A. IGF-2 is a member of the insulin family of polypeptide growth factors that is involved in development and growth.<sup>1</sup> It is paternally expressed in the fetus and placenta.<sup>2</sup> IGF-II is a mitogen for many cell types and an important modulator of muscle growth and differentiation. IGF-II gene is prevalently expressed during prenatal development and its gene activity is regulated by genomic imprinting, in that the allele inherited from the father is active and the allele inherited from the mother is inactive in most normal tissues.<sup>3</sup> IGF-II appears to be induced by placental lactogen during prenatal development.<sup>4</sup> It is a mediator of prolactin-induced alveologenesis; prolactin, IGF-2, and cyclin D1, all of which are overexpressed in breast cancers, are components of a developmental pathway in the mammary gland.<sup>5</sup> The human IGF-II gene is located on chromosome 11.<sup>6</sup> The standard product used in this kit is recombinant human IGF-2, consisting of 67 amino acids in mature form with the molecular mass of 7.5KDa. IGF-1 and IGF-2 share high homology.

## Reference

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2. Constancia, M.; Hemberger, M.; Hughes, J.; Dean, W.; Ferguson-Smith, A.; Fundele, R.; Stewart, F.; Kelsey, G.; Fowden, A.; Sibley, C.; Reik, W. Placental-specific IGF-II is a major modulator of placental and fetal growth. *Nature* 417: 945-948, 2002.
3. Ogawa, O.; Becroft, D. M.; Morison, I. M.; Eccles, M. R.; Skeen, J. E.; Mauger, D. C.; Reeve, A. E. Constitutional relaxation of insulin-like growth factor II gene imprinting associated with Wilms' tumour and gigantism. *Nature Genet.* 5: 408-412, 1993.
4. Dull, T. J.; Gray, A.; Hayflick, J. S.; Ullrich, A. Insulin-like growth factor II precursor gene organization in relation to insulin gene family. *Nature* 310: 777-781, 1984.
5. Briskin, C.; Ayyannan, A.; Nguyen, C.; Heineman, A.; Reinhardt, F.; Tan, J.; Dey, S. K.; Dotto, G. P.; Weinberg, R. A. IGF-2 is a mediator of prolactin-induced morphogenesis in the breast. *Dev. Cell* 3: 877-887, 2002. Note: Erratum: *Dev. Cell* 4: 283 only, 2003.

**FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC AND CLINICAL USE.**

## Product Information Sheet

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- de Pagter-Holthuisen, P.; Hoppener, J. W. M.; Jansen, M.; Geurts van Kessel, A. H. M.; van Ommen, G. J. B.; Sussenbach, J. S. Chromosomal localization and preliminary characterization of the human gene encoding insulin-like growth factor II. *Hum. Genet.* 69: 170-173, 1985.