Datasheet for ABIN411286

IGF1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	IGF1
Binding Specificity:	AA 49-118
Reactivity:	Mouse
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Mouse IGF-1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: E.coli Immunogen sequence: G49-A118
Specificity:	Expression system for standard: E.coli Immunogen sequence: G49-A118
Cross-Reactivity (Details):	There is no detectable cross-reactivity with IGF-2.

Product Details

Predicted Reactivity:	Hamster
Sensitivity:	<5pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g Nacl

Target Details

Target:	IGF1
Alternative Name:	IGF1 (IGF1 Products)
Background:	Background: Insulin-like growth factor 1(IGF-1) that was once called somatomedin C, is a polypeptide protein hormone similar in molecular structure to insulin. It plays an important role in childhood growth and continues to have anabolic effects in adults. Human IGF1 is a single chain 70-amino acid polypeptide cross-linked by 3 disulfide bridges, with a calculated molecular mass of 7.6 kD.1 The IGF1 gene, mapped on 12q22-q24. contains 5 exons. Exons 1-4 encode the 195-amino acid precursor(IGF1B), and exons 1, 2, 3, and 5 encode the 153-residue peptide(IGF1A). The structure of IGF1 resembles that of IGF2. And the IGF1 and IGF2 genes have complex structures with multiple promoters. The expression of both genes is regulated at the levels of transcription, RNA processing, and translation. IGF-1 is produced primarily by the liver as an endocrine hormone as well as in target tissues in a paracrine/autocrine fashion. Moreover, approximately 98 % of IGF-1 is always bound to one of 6 binding proteins(IGF-BP). Furthermore, IGF-1 is one of the most potent natural activators of the AKT signaling pathway, a stimulator of cell growth and multiplication and a potent inhibitor of programmed cell death. Synonyms: Insulin-like growth factor I ,Igf1 , Full Gene Name: insulin-like growth factor 1 (somatomedin C) Cellular Localisation: Secreted.
Gene ID:	16000
UniProt:	E9PU89
Pathways:	RTK Signaling, Intracellular Steroid Hormone Receptor Signaling Pathway, Peptide Hormone Metabolism, Hormone Activity, Regulation of Intracellular Steroid Hormone Receptor Signaling, Regulation of Hormone Metabolic Process, Regulation of Hormone Biosynthetic Process, Stem Cell Maintenance, Glycosaminoglycan Metabolic Process, Regulation of Carbohydrate Metabolic Process, Autophagy, Smooth Muscle Cell Migration, Activated T Cell Proliferation,

Target Details

Positive Regulation of fat Cell Differentiation

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Belongs to the insulin family.
Plate:	Pre-coated
Protocol:	mouse IGF-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for IGF-1 has been precoated onto 96-well plates. Standards(E.coli, G49-A118) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for IGF-1is added 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 mouse IGF-1 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL,1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL mouse IGF-1 standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of mouse cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each mouse IGF-1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 447, Standard deviation: 28.61, CV(%): 6.4 • Sample 2: n=16, Mean(pg/ml): 1253, Standard deviation: 53.88, CV(%): 4.3 • Sample 3: n=16, Mean(pg/ml): 2346, Standard deviation: 115, CV(%): 4.9, • Sample 1: n=24, Mean(pg/ml): 450, Standard deviation: 39.15, CV(%): 8.7 • Sample 2: n=24, Mean(pg/ml): 1238, Standard deviation: 64.38, CV(%): 5.2 • Sample 3: n=24, Mean(pg/ml): 2625, Standard deviation: 144.4, CV(%): 5.5
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C

Handling

Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

Publications

Product cited in:

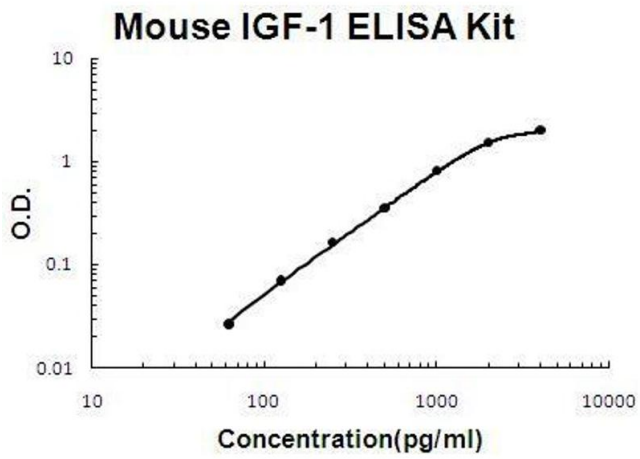
Matz-Soja, Aleithe, Marbach, Böttger, Arnold, Schmidt-Heck, Kratzsch, Gebhardt: "Hepatic Hedgehog signaling contributes to the regulation of IGF1 and IGFBP1 serum levels." in: **Cell communication and signaling : CCS**, Vol. 12, pp. 11, (2014) (PubMed).

Adise, Saliu, Maldonado, Khatri, Cardoso, Rodríguez-Contreras: "Effect of maternal care on hearing onset induced by developmental changes in the auditory periphery." in: **The Journal of neuroscience : the official journal of the Society for Neuroscience**, Vol. 34, Issue 13, pp. 4528-33, (2014) (PubMed).

Ni, Sun, Fu, Wang, Guo, Tian, Wei: "IGF-1 promotes the development and cytotoxic activity of human NK cells." in: **Nature communications**, Vol. 4, pp. 1479, (2013) (PubMed).

Cai, Li, Wang, Liu, Yang, Chen, Yin, Tan, Zhu, Pan, Wang, Lu: "Apoptosis of bone marrow mesenchymal stem cells caused by homocysteine via activating JNK signal." in: **PLoS ONE**, Vol. 8, Issue 5, pp. e63561, (2013) (PubMed).

Wang, Wang, Liang, Liu, Shi, Bai, Lin, Magaye, Zhao: "Expression and clinical significance of IGF-1, IGFBP-3, and IGFBP-7 in serum and lung cancer tissues from patients with non-small cell lung cancer." in: **OncoTargets and therapy**, Vol. 6, pp. 1437-44, (2013) (PubMed).



ELISA

Image 1. Mouse IGF-1 PicoKine ELISA Kit standard curve