Datasheet for ABIN411354

TGFB1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	TGFB1
Binding Specificity:	AA 279-390
Reactivity:	Rat
Method Type:	Sandwich ELISA
Detection Range:	15.6-1000 pg/mL
Minimum Detection Limit:	15.6 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of activated Rat TGF beta 1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (EDTA), Urine
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: CHO Immunogen sequence: A279-S390
Specificity:	Expression system for standard: CHO Immunogen sequence: A279-S390
Cross-Reactivity (Details):	There is cross-reactivity with TGFbeta2, TGFbeta3, TGFbeta5<1 % .

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Product Details

Predicted Reactivity:	Bovine,Canine,Monkey,Rabbit
Sensitivity:	<1pg/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:	TGFB1
Alternative Name:	TGFB1 (TGFB1 Products)
Background:	Protein Function: Multifunctional protein that controls proliferation, differentiation and other functions in many cell types. Many cells synthesize TGFB1 and have specific receptors for it. It positively and negatively regulates many other growth factors. It plays an important role in bone remodeling as it is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts. Can promote either T- helper 17 cells (Th17) or regulatory T-cells (Treg) lineage differentiation in a concentration-dependent manner. At high concentrations, leads to FOXP3-mediated suppression of RORC and down-regulation of IL-17 expression, favoring Treg cell development. At low concentrations in concert with IL-6 and IL-21, leads to expression of the IL-17 and IL-23 receptors, favoring differentiation to Th17 cells (By similarity). . Background: Transforming growth factor-beta1(TGF-beta1) is a multifunctional peptide that controls proliferation, differentiation, and other functions in many cell types. Many cells synthesize TGF-beta and essentially all of them have specific receptors for this peptide. TGF-beta regulates the actions of many other peptide growth factors and determines a positive or negative direction of their effects. TGFbeta1 is known for its potent and diverse biological effects, including immune regulation, and cell growth and differentiation. TGFbeta1 is also an important mediator of bone remodeling. TGFbeta1, a potent keratinocyte growth inhibitor, has been shown to be overexpressed in keratinocytes in certain inflammatory skin diseases and has been thought to counteract the effects of other growth factors at the site of inflammation. TGF-beta1, a multifunctional cytokine with fibrogenic properties, has been implicated in the pathogenesis of the vascular and target organ complications of hypertension. TGF-beta1 may also regulate blood pressure via stimulation of endothelin-1 and/or renin secretion. TGFbeta1 is secreted as a latent form, which consists of its mature form and a latency-associated peptide(beta1-LAP) in either the presence or the absence of additional latent TGF-beta1-binding

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Target Details

	protein. The standard product used in this kit is recombinant TGFbeta1 with the molecular mass of 25KDa. Synonyms: Transforming growth factor beta-1,TGF-beta-1,Latency-associated peptide,LAP,Tgfb1, Full Gene Name: Transforming growth factor beta-1 Cellular Localisation: Secreted, extracellular space, extracellular matrix.
Gene ID:	59086
UniProt:	P17246
Pathways:	EGFR Signaling Pathway, Dopaminergic Neurogenesis, Cellular Response to Molecule of Bacterial Origin, Glycosaminoglycan Metabolic Process, Regulation of Leukocyte Mediated Immunity, Regulation of Muscle Cell Differentiation, Positive Regulation of Immune Effector Process, Cell-Cell Junction Organization, Production of Molecular Mediator of Immune Response, Ribonucleoside Biosynthetic Process, Skeletal Muscle Fiber Development, Regulation of Carbohydrate Metabolic Process, Protein targeting to Nucleus, Autophagy, Cancer Immune Checkpoints

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:	Tissue Specificity: Abundant in the bone matrix. .
Plate:	Pre-coated
Protocol:	rat TGF beta 1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for TGF beta 1 has been precoated onto 96-well plates. Standards(CHO, A279-S390) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for TGF beta 1 is 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 rat TGF beta 1 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.2pg/mL, 15.6pg/mL rat TGF beta 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

Application Details

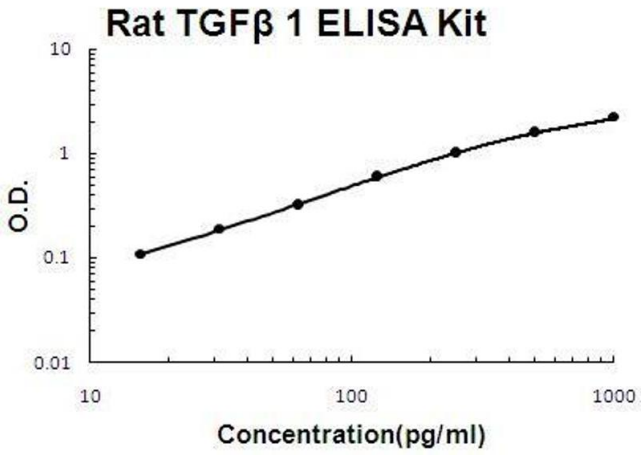
	properly diluted sample of rat cell culture supernates, serum, plasma (EDTA) or urine to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each rat TGF beta 1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 122, Standard deviation: 4.15, CV(%): 3.4 • Sample 2: n=16, Mean(pg/ml): 253, Standard deviation: 11.4, CV(%): 4.5 • Sample 3: n=16, Mean(pg/ml): 506, Standard deviation: 25.81, CV(%): 5.1, • Sample 1: n=24, Mean(pg/ml): 140, Standard deviation: 6.72, CV(%): 4.8 • Sample 2: n=24, Mean(pg/ml): 256, Standard deviation: 14.08, CV(%): 5.5 • Sample 3: n=24, Mean(pg/ml): 613, Standard deviation: 37.39, CV(%): 6.1
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
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:	Wang, Lee, Chou, Yang, Wei, Chen, Yao, Hsu, Zhu, Ying, Ye, Wang, Lim, Xia, Ko, Liu, Liu, Wu, Wang, Li, Prakash, Katz, Kang, Kim, Fleming, Fogelman, Javle, Maitra, Hung: " Angiogenin/Ribonuclease 5 Is an EGFR Ligand and a Serum Biomarker for Erlotinib Sensitivity in Pancreatic Cancer." in: **Cancer cell**, Vol. 33, Issue 4, pp. 752-769.e8, (2019) (PubMed). There are more publications referencing this product on: Product page



ELISA

Image 1. Rat TGF beta 1 PicoKine ELISA Kit standard curve

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