Datasheet for ABIN625205

IL-6 ELISA Kit

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Overview

Quantity:	96 tests
Target:	IL-6 (IL6)
Reactivity:	Rat
Method Type:	Sandwich ELISA
Detection Range:	30-10000 pg/mL
Minimum Detection Limit:	30 pg/mL
Application:	ELISA

Product Details

Purpose:	Rat IL-6 ELISA Kit for cell culture supernatants, plasma, and serum samples.
Sample Type:	Plasma, Cell Culture Supernatant, Serum
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This ELISA kit shows no cross-reactivity with the following cytokines tested: rat CINC-2, CINC-3, CNTF, Fractalkine, IL-1 alpha, IL-1 beta, IL-4, IL-10, GM-CSF, IFN-gamma, Leptin, Lix, MCP-1, MIP-3 alpha, beta-NGF, TIMP-1, TNF-alpha.
Cross-Reactivity (Details):	This ELISA kit shows no cross-reactivity with the following cytokines tested: rat CINC-2, CINC-3, CNTF, Fractalkine, IL-1alpha, IL-1beta, IL-4, IL-10, GM-CSF, IFN-gamma, Leptin, Lix, MCP-1, MIP-3alpha, beta-NGF, TIMP-1, TNF-alpha.
Sensitivity:	< 30 pg/mL

Product Details

Characteristics:	• Strip plates and additional reagents allow for use in multiple experiments • Quantitative protein detection • Establishes normal range • The best products for confirmation of antibody array data
Components:	• Pre-Coated 96-well Strip Microplate • Wash Buffer • Stop Solution • Assay Diluent(s) • Lyophilized Standard • Biotinylated Detection Antibody • Streptavidin-Conjugated HRP • TMB One-Step Substrate
Material not included:	• Distilled or deionized water • Precision pipettes to deliver 2 µL to 1 µL volumes • Adjustable 1-25 µL pipettes for reagent preparation • 100 µL and 1 liter graduated cylinders • Tubes to prepare standard and sample dilutions • Absorbent paper • Microplate reader capable of measuring absorbance at 450nm • Log-log graph paper or computer and software for ELISA data analysis

Target Details

Target:	IL-6 (IL6)
Alternative Name:	IL-6 (IL6 Products)
Background:	Interleukin-6 (IL-6)
Gene ID:	24498
UniProt:	P20607
Pathways:	TLR Signaling, Hormone Transport, Negative Regulation of Hormone Secretion, Myometrial Relaxation and Contraction, Positive Regulation of Immune Effector Process, Production of Molecular Mediator of Immune Response, Regulation of Carbohydrate Metabolic Process, Autophagy, Cell RedoxHomeostasis, Cancer Immune Checkpoints, Inflammasome

Application Details

Application Notes:	Recommended Dilution for serum and plasma samples2 fold

Application Details

Sample Volume:	100 µL
Plate:	Pre-coated
Protocol:	1. Prepare all reagents, samples and standards as instructed in the manual. 2. Add 100 µL of standard or sample to each well. 3. Incubate 2.5 h at RT or O/N at 4 °C. 4. Add 100 µL of prepared biotin antibody to each well. 5. Incubate 1 h at RT. 6. Add 100 µL of prepared Streptavidin solution to each well. 7. Incubate 45 min at RT. 8. Add 100 µL of TMB One-Step Substrate Reagent to each well. 9. Incubate 30 min at RT. 10. Add 50 µL of Stop Solution to each well. 11. Read at 450 nm immediately.
Reagent Preparation:	1. Bring all reagents and samples to room temperature (18 - 25 °C) before use. 2. Sample dilution: If your samples need to be diluted, Assay Diluent C (Item L) should be used for dilution of serum/plasma/culture supernatants/urine. Suggested dilution for normal serum/plasma: 2 fold*. * Please note that levels of the target protein may vary between different specimens. Optimal dilution factors for each sample must be determined by the investigator. 3. Assay Diluent B (Item E) should be diluted 5-fold with deionized or distilled water before use. 4. Preparation of standard: Briefly spin the vial of Item C. Add 500 µL Assay Diluent C (Item L) into Item C vial to prepare a 10,000 pg/mL standard solution. Dissolve the powder thoroughly by a gentle mix. Pipette 300 µL Assay Diluent C into each tube. Use the 10,000 pg/mL standard solution to produce a dilution series . Mix each tube thoroughly before the next transfer. Assay Diluent C serves as the zero standard (0 pg/mL). 200 µL Standard (Item C) + 500 µL 200myl 200 µL 200 µL 200 µL 200 µL 10,000 4,000 1,600 640 256 102.4 40.96 0 pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL 5. If the Wash Concentrate (20x) (Item B) contains visible crystals, warm to room temperature and mix gently until dissolved. Dilute 20 ml of Wash Buffer Concentrate into deionized or distilled water to yield 400 ml of 1x Wash Buffer. 6. Briefly spin the Detection Antibody vial (Item F) before use. Add 100 µL of 1x Assay Diluent B (Item E) into the vial to prepare a detection antibody concentrate. Pipette up and down to mix gently (the concentrate can be stored at 4 °C for 5 days). The detection antibody concentrate should be diluted 80-fold with 1x Assay Diluent B and used in step 4 of Part VI Assay Procedure. 7. Briefly spin the HRP-Streptavidin concentrate vial (Item G) and pipette up and down to mix

	gently before use. HRP-Streptavidin concentrate should be diluted 400-fold with 1x Assay Diluent B (Item E). For example: Briefly spin the vial (Item G) and pipette up and down to mix gently . Add 30 µL of HRP-Streptavidin concentrate into a tube with 12 ml 1x Assay Diluent B to prepare a 400-fold diluted HRP-Streptavidin solution (don't store the diluted solution for next day use). Mix well.
Assay Procedure:	1. Bring all reagents and samples to room temperature (18 - 25 °C) before use. It is recommended that all standards and samples be run at least in duplicate. 2. Add 100 µL of each standard (see Reagent Preparation step 2) and sample into appropriate wells. Cover well and incubate for 2.5 hours at room temperature or over night at 4 °C with gentle shaking. 3. Discard the solution and wash 4 times with 1x Wash Solution. Wash by filling each well with Wash Buffer (300 myl) using a multi-channel pipette or autowasher. Complete removal of liquid at each step is essential to good performance. After the last wash, remove any remaining Wash Buffer by aspirating or decanting. Invert the plate and blot it against clean paper towels. 4. Add 100 µL of 1x prepared biotinylated antibody (Reagent Preparation step 6) to each well. Incubate for 1 hour at room temperature with gentle shaking. 5. Discard the solution. Repeat the wash as in step 6. Add 100 µL of prepared Streptavidin solution (see Reagent Preparation step 7) to each well. Incubate for 45 minutes at room temperature with gentle shaking. 7. Discard the solution. Repeat the wash as in step 8. Add 100 µL of TMB One-Step Substrate Reagent (Item H) to each well. Incubate for 30 minutes at room temperature in the dark with gentle shaking. 9. Add 50 µL of Stop Solution (Item I) to each well. Read at 450 nm immediately.
Calculation of Results:	Calculate the mean absorbance for each set of duplicate standards, controls and samples, and subtract the average zero standard optical density. Plot the standard curve on log-log graph paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis. Draw the best-fit straight line through the standard points. Typical Data: These standard curves are for demonstration only. A standard curve must be run with each assay. Assay Diluent C Rat IL-6 concentration (pg/mL) O D =4 50 n m 0.01 0.1 1 10 10 100 1,000 10,000 Sensitivity: The minimum detectable dose of IL-6 is typically less than 30 pg/mL. Recovery: Recovery was determined by spiking various levels of IL-6 into normal rat serum, plasma and cell culture media. Mean recoveries are as follows: Sample Type Average % Recovery Range (%) Serum 115.6 105-127 Plasma 122.8 109-138 Cell culture media 130.2 118-138

Application Details

	Linearity: Sample Type Serum Plasma Cell Culture Media 1:2 Average % of Expected 102.4 98.75 99.89 Range (%) 91-112 88-117 88-107 1:4 Average % of Expected 104.6 87.33 96.96 Range (%) 93-114 76-97 85-105 Reproducibility: Intra-Assay: CV<10 % Inter-Assay: CV<12 %
Assay Precision:	Intra-Assay: CV< 10 % Inter-Assay: CV< 12 %
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-20 °C
Storage Comment:	The entire kit may be stored at -20°C for up to 1 year from the date of shipment. Avoid repeated freeze-thaw cycles. The kit may be stored at 4°C for up to 6 months. For extended storage, it is recommended to store at -80°C.
Expiry Date:	6 months

Publications

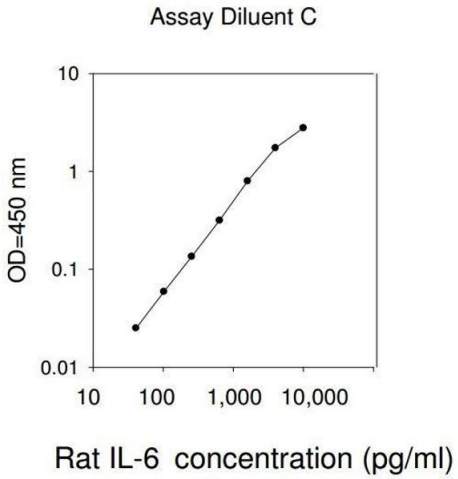
Product cited in:	Xu, Yang, Sun, Chen, Jiang, Zheng, Ding, Liu, Sheng, Cui, Duan: "2,3',4,4',5-Pentachlorobiphenyl Induces Inflammatory Responses in the Thyroid Through JNK and Aryl Hydrocarbon Receptor-Mediated Pathway." in: **Toxicological sciences : an official journal of the Society of Toxicology**, Vol. 149, Issue 2, pp. 300-11, (2016) (PubMed). Li, Liu, Sun, Wang, Wang, Wang, Wang: "Chronic vagus nerve stimulation attenuates vascular endothelial impairments and reduces the inflammatory profile via inhibition of the NF-κB signaling pathway in ovariectomized rats." in: **Experimental gerontology**, Vol. 74, pp. 43-55, (2016) (PubMed). Suchal, Malik, Gamad, Malhotra, Goyal, Ojha, Kumari, Bhatia, Arya: "Mangiferin protect myocardial insults through modulation of MAPK/TGF-β pathways." in: **European journal of pharmacology**, Vol. 776, pp. 34-43, (2016) (PubMed). Gu, He, Zhou, Liu, Hou, Bin, Zhang, Li, Chen: "Endogenous IL-6 of mesenchymal stem cell improves behavioral outcome of hypoxic-ischemic brain damage neonatal rats by supressing apoptosis in astrocyte." in: **Scientific reports**, Vol. 6, pp. 18587, (2016) (PubMed).

Publications

Zhang, Zhang, Tsui: "Mesenteric lymph duct drainage attenuates acute lung injury in rats with severe intraperitoneal infection." in: **Inflammation**, Vol. 38, Issue 3, pp. 1239-49, (2015) (PubMed).

There are more publications referencing this product on: Product page

Images



ELISA

Image 1.