Datasheet for ABIN7014029

IL12 ELISA Kit

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Overview

Quantity:	96 tests
Target:	IL12
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	7.8 pg/mL - 500 pg/mL
Minimum Detection Limit:	7.8 pg/mL
Application:	ELISA

Product Details

Purpose:	For quantitative detection of IL-12 p70 in serum, plasma, tissue homogenates and other biological fluids.
Sample Type:	Plasma, Serum, Tissue Homogenate
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This assay has high sensitivity and excellent specificity for detection of IL-12 p70. No significant cross- reactivity or interference between IL-12 p70 and analogues were observed.
Sensitivity:	4.6 pg/mL
Grade:	High Sensitivity
Components:	• Pre-coated, ready to use 96-well strip plate • Plate sealer for 96 wells

Product Details

- Standard
- Sample/Standard Dilution Buffer
- Assay Diluent
- Biotin-labeled Antibody (Concentrated)
- HRP-Streptavidin (HRP-SA)
- Biotin System (BS)
- BS Dilution Buffer
- TMB Substrate
- Stop Solution
- Wash Buffer (25 x concentrate)
- Instruction manual

Target Details

Target:	IL12
Alternative Name:	Interleukin 12 p70 (IL12 Products)
Background:	IL-12 (interleukin 12) was first described as natural killer stimulating factor in 1989. The heterodimeric cytokine IL-12 consists of a 35-kd light chain (p35 or IL-12A) and 40-kd heavy chain (p40 or IL-12B). The gene encoding p35 is located on chromosome 3 in human beings and on chromosome 6 in mice. The p35 protein contains 197 amino acids and has homology to other single-chain cytokines (eg, IL-6 and G-CSF). The IL-12 p40 gene is on the human chromosome 5 in the same area as IL-3, IL-5, and GM-CSF, and the mice gene is on chromosome 11. P40 has homology to the extracellular domain of members of hematopoietic cytokine - receptor family (eg, IL-6Rα). IL-12 (interleukin 12) receptor, binding interleukin 12, is composed of two subunits, IL-12RB1 (also known as CD212) and IL12RB2. These IL-12 functions depend on its IL-12 and IL-12 receptor complex. IL-12 (interleukin 12) is a heterodimeric pro-inflammatory cytokine that induces the production of interferon-γ (IFN-γ), favours the differentiation of T helper 1 (TH1) ce lls and forms a link between innate resistance and adaptive immunity. Dendritic cells (DCs) and phagocytes produce IL-12 in response to pathogens during infection. Production of IL-12 is dependent on differential mechanisms of regulation of expression of the genes encoding IL-12, patterns of Toll-like receptor (TLR) expression and cross-regulation between the different DC subsets, involving cytokines such as IL-10 and type I IFN.
Pathways:	JAK-STAT Signaling, TLR Signaling, Cellular Response to Molecule of Bacterial Origin, Regulation of Leukocyte Mediated Immunity, Positive Regulation of Immune Effector Process, Activated T Cell Proliferation, Cancer Immune Checkpoints, Inflammasome

Application Details

Sample Volume:	50 µL
Plate:	Pre-coated
Protocol:	1. Prepare all reagents, samples and standards, 2. Add 50µL Assay Diluent to each well 3. Add 50µL standard or sample to each well. Incubate 90 minutes at 37 °C, 4. Aspirate and wash 2 times, 5. Add 100µL Biotin-labeled antibody to each well. Incubate 1 hour at 37 °C, 6. Aspirate and wash 2 times, 7. Add 100µL BS Working Solution to each well. Incubate 15 minutes at RT, 8. Aspirate and wash 3 times, 9. Add 100µL HRP-SA to each well. Incubate 30 minutes at 37 °C, 10. Aspirate and wash 3 times, 11. Add 90µL Substrate Solution. Incubate 10-20 minutes at 37 °C, 12. Add 50µL Stop Solution. Read at 450nm immediately.
Reagent Preparation:	Bring all reagents and samples to room temperature for 20 minutes before use. 1. Wash Buffer: Dilute 30 mL Concentrated Wash Buffer to 750 mL Wash Buffer with deionized or distilled water. Put unused solution back at 2-8 °C. Note: If crystals have formed in the concentrate, you can warm it with 40 °C water bath (Heating temperature should not exceed 50 °C) and mix it gently until the crystals have completely been dissolved. The solution should be cooled to room temperature before use. 2. Standards: a) Add 1 mL Sample Dilution Buffer into one Standard tube (labeled as zero tube), keep the tube at room temperature for 10 minutes and mix them thoroughly. Note: If the standard tube concentration higher than the range of the kit, please dilute it and label as zero tube. b) Label 7 EP tubes with 1/2, 1/4, 1/8, 1/16, 1/32, 1/64 and blank respectively. Add 0.3 mL of the Sample Dilution Buffer into each tube. Add 0.3 mL of the above Standard solution (from zero tube) into 1st tube and mix them thoroughly. Transfer 0.3 mL from 1st tube to 2nd tube and mix them thoroughly, and so on. Sample Dilution Buffer is used for the blank control. Note: It is best to use Standard Solutions within 2 hours. 3. BS Working Solution: Prepare it within 15 minutes before experiment. a) Calculate required total volume of the working solution: 0.1 mL/well x quantity of wells. (Allow 0.1-0.2 mL more than the total volume.) b)Dilute the BS with BS Dilution Buffer at 1:100 and mix them thoroughly. (i.e. Add 1 µL of BS into 99 µL of BS Dilution Buffer.) Note: If crystals have formed in the BS, you can warm it with water (temperature should not exceed 30 °C) and mix it gently until the crystals have completely been dissolved.
Sample Preparation:	• It is recommended to use fresh samples without long storage, otherwise protein degradation and denaturationmay occur in these samples, leading to false results. Samples should therefore be stored for a short periodat 2 - 8 °C or aliquoted at -20 °C (≤1 month) or -80 °C (≤

Application Details

3 months). Repeated freeze-thawcycles should be avoided. Prior to assay, the frozen samples should be slowly thawed and centrifuged toremove precipitates.

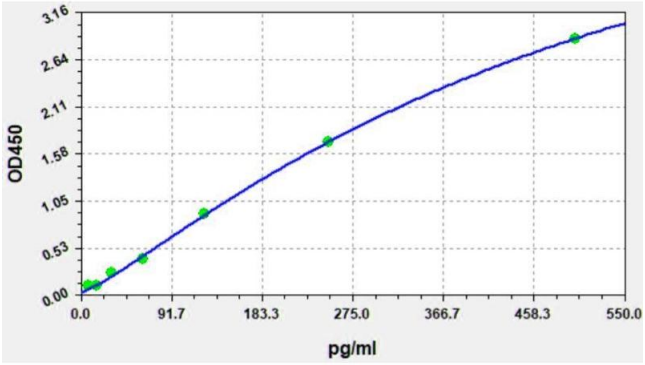
- If the sample type is not specified in the instructions, a preliminary test is necessary to determinecompatibility with the kit.
- If a lysis buffer is used to prepare tissue homogenates or cell culture supernatant, there is a possibilityof causing a deviation due to the introduced chemical substance.The recommended dilution factor is for reference only.
- Please estimate the concentration of the samples before performing the test. If the values are not in therange of the standard curve, the optimal sample dilution for the particular experiment has to be determined.Samples should then be diluted with PBS (pH =7.0-7.2).

Assay Precision:	Intra-Assay: CV<8% Inter-Assay: CV<10%
Restrictions:	For Research Use only

Handling

Storage:	4 °C,-20 °C
Storage Comment:	1. For unopened kit: All reagents should be stored according to the labels on the vials. The Standard and 96-well Strip Plate should be stored at -20 °C upon receipt, while the other reagents should be stored at 4 °C. 2. For opened kits: the remaining reagents must be stored according to the above storage conditions. In addition, please return the unused wells to the foil pouch containing the desiccant and seal the foil pouch with the zipper.
Expiry Date:	6 months

Images



ELISA

Image 1. Typical standard curve