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| 1. Identification |

Product name: ELISA kits of human IL-4

Reactions: 48/96 rxns

Cat. No.: PRA-H IL-4-48/PRA-H IL-4-96

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| 2. Description |

IL-4 is a cytokine primarily produced by Th2 lymphocytes, helper T lymphocytes type 2, mast cells, and certain macrophages. This cytokine exhibits inflammatory properties, contributing significantly to allergic diseases and responses against parasitic infections. Additionally, IL-4 plays a crucial role in the development of diseases mediated by humoral immunity.

- Produced by Th2 lymphocytes, mast cells, and some macrophages.

- Has proven inflammatory properties.

- Significant role in allergic diseases and response against parasitic infections.

- Plays a crucial role in the development of humoral immunity-mediated diseases.

As a Th2 indicator, IL-4 is extensively used in laboratory studies to investigate the condition of diseases and assess the inflammatory or anti-inflammatory effects of drugs. The current kit is designed and produced using monoclonal antibodies against human IL-4, making it specifically intended for the measurement of human cases and not suitable for similar animal cases.

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| 3. Kit Contents |

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| Component | **Cat. no** | Quantity |
| Human anti-IL4 pre-coated plate  | PRA-IL4 P | 96/48 vials |
| Standards | PRA-IL4 SN1-4 | 200 µl |
| HRP-Avidin buffer | PRA-HA | 5 ml |
| HRP | PRA-HAA | 540 µl |
| Substrate | PRA-SU | 5 ml |
| Stopping | PRA-ST | 7 ml |
| 10X washing buffer | PRA-WB | 40 ml |
| Detection Ab | PRA-IL4 D | 5 ml |

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| 4. Storage specifications |

All components of the ELISA kits can be stored at 4°C temperature.

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| 5. Applications |

Detection of inflammatory and anti-inflammatory factors.

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| 6. Assay Procedure |

**How to Prepare Solutions:**

1. Washing Buffer:

 - Dilute the provided washing solution with distilled water at a 1:10 ratio.

2. HRP-Avidin:

 - Spin the HRP vial using a microfuge device.

 - Add the entire contents of the HRP vial to the HRP-Avidin buffer vial.

 - If quantities less than 48 assays are used, mix 416 µl of HRP-Avidin and 41 µl of HRP per 8-well row.

**How to Work with the Kit to Measure IL4:**

1. Plate Preparation:

 - Remove the plate from the desired package and bring it to room temperature in a dry environment.

 - Add 50 µl of standards #4 to #1 to the first to fourth wells.

2. Sample Incubation:

 - Add 50 µl of the desired sample to the remaining wells.

 - Incubate for 60 minutes on a 200 RPM shaker at room temperature.

3. Plate Washing:

 - After proper incubation, wash the plates three times with the washing solution (incubate the plates for approximately 1 minute after adding the washing solution, then drain).

4. Conjugated Antibody Addition:

 - Add 50 µl of the conjugated antibody (Detection ab) to all wells.

 - Incubate for 60 minutes on a 200 RPM shaker at room temperature.

5. Plate Washing (Again):

 - After proper incubation, wash the plates three times with the washing solution.

6. HRP-Avidin Addition:

 - Add 50 µl of the HRP-Avidin solution to all wells.

 - Incubate for 30 minutes on a shaker (at least at RPM 200).

7. Plate Washing (Again):

 - After proper incubation, wash the plates five times with the washing solution.

8. Substrate Addition:

 - Add 50 µl of substrate to all wells and incubate for 15 minutes. Adjust incubation time if needed (up to 20 minutes).

9. Stopping Reaction:

 - Add 25 µl of the stopping solution to all wells.

10. Measurement:

 - Measure the absorbance of the samples in an ELISA reader at a wavelength of 450 nm.

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| 7. Safety |

- The solutions used in the kit have oxidizing and acidic properties.

- Avoid direct contact with skin and eyes.

- In case of contact with the mentioned tissues, wash with plenty of water and go to the nearest medical center.

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| 8. Quality Certifications |

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| 9. Further information |

- This product is developed, designed, and sold exclusively only for research purposes use.

- The product was not tested for use in diagnostics or for drug development.

- It is not suitable for administration to humans or animals.

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| 10. Other Kits |

Other ELISA kits:

Human:

IL-1β, IL-2, IL-4, IL-6, IL-8, IL-10, IL-12, IL-13, IL-17, IL-23, IL-29, IL-18A, TGF-β, VEGF, TNF-α, IFN-γ, CCL2 (MCP-1), CCL3 (MIP-1-alpha), CXCL10 (IP-10), CXCL10 (SDF-1), CCL21

Mouse:

IL-1β, IL-2, IL-4, IL-6, IL-10, IL-13, IL-33, IL-17, TNF-α, TGF-β, CCL3, IFN-γ,

Total IgG, Total IgE

Rat:

TNF-α, IL-1β, IL-6, IL-10, IL-18A

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| NOTE |

All products have been produced by Karmania Pars Gene company in Iran.