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| 1. Identification |

Product name: ELISA kits for human TNF-α

Reactions: 48/96 rxns

Cat. No.: PRA-HTNF-48/PRA-HTNF-96

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| 2. Description |

TNF-α is an inflammatory cytokine produced by macrophages and dendritic cells. This cytokine possesses numerous inflammatory properties and has receptors on specific immune cells, including Th17 lymphocytes. Consequently, it can regulate and induce responses in immune system cells. TNF-α plays a crucial role in developing the immune system's response against bacterial and fungal infections. Additionally, this cytokine is a key factor in the onset of autoimmune diseases. As a result, TNF-α is extensively utilized as an inflammatory indicator in laboratory studies to examine the status of autoimmune diseases. The current kit is designed and produced using monoclonal anti-human TNF-α antibodies. It is important to note that this kit is specifically designed for measuring human TNF-α and is not applicable for similar cases in animals.

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| 3. Kit Contents |

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| Component | **Cat. no** | Quantity |
| Human anti-TNF-α pre-coated plate  | PRA-TNFP | 96 vials |
| Standards | PRA- TNFSN1-4 | 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-TNFD | 5 ml |

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| 4. Storage specifications |

All Elisa kits components can be stored at -20 oC 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 washing solution with distilled water at a ratio of 1:10.

2. HRP-Avidin:

 - 1. Spin the HRP vial using a microfuge device.

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

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

**How to Work with the Kit to Measure TNF-α:**

1. Remove the plate from the package and allow it to reach room temperature in a dry environment.

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

3. Add 50 µl of the sample to the remaining wells and incubate for 60 minutes on a 200 RPM shaker at room temperature.

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

5. Add 50 µl of conjugated antibody (Detection ab) to all wells and incubate for 60 minutes on a 200 RPM shaker at room temperature.

6. After incubation, wash the plates three times using the washing solution.

7. Add 50 µl of HRP-Avidin solution to all wells and incubate for 30 minutes on a shaker (at least at RPM 200).

8. After incubation, wash the plates five times using the washing solution.

9. Add 50 µl of substrate to all wells and incubate for 15 minutes. Note: If the color produced is low, the incubation time can be increased to 20 minutes.

10. Add 25 µl of the stopping solution to all wells and 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.

- Seek medical attention and go to the nearest medical center if contact occurs.

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| 8. Quality Certifications |

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| 9. Further information |

This product is developed, designed, and sold exclusively for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it 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-18, IL-23, IL-29, IL-17A, TGF-β, VEGF, TNF-α, IFN-γ, CCL2 (MCP-1), CCL3 (MIP-1-alpha), CXCL10 (IP-10), CXCL12 (SDF-1), CCL21

Mouse:

IL-1β, IL-2, IL-4, IL-6, IL-10, IL-13, IL-33, IL-18, TNF-α, TGF-β, CCL3, IFN-γ,

Total IgG, Total IgE

Rat:

TNF-α, IL-1β, IL-6, IL-10, IL-17A

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| NOTE |

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