# Rat Interleukin 6,IL-6 ELISA KIT

| | |
|---|---|
| **Product Code** | CSB-E04640r |
| **Abbreviation** | IL6 |
| **Protein Biological Process 1** | Immunity |
| **Uniprot No.** | P20607 |
| **Product Type** | ELISA Kit |
| **Immunogen Species** | Rattus norvegicus (Rat) |
| **Sample Types** | serum, plasma, tissue homogenates |
| **Detection Range** | 0.312 pg/ml-20 pg/ml |
| **Sensitivity** | 0.078 pg/ml |
| **Assay Time** | 1-5h |
| **Sample Volume** | 50-100ul |
| **Detection Wavelength** | 450 nm |
| **Lead Time** | 3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx. |
| **Research Area** | Immunology |
| **Quality Control** | A microplate reader capable of measuring absorbance at 450 nm, with the correction wavelength set at 540 nm or 570 nm.<br>An incubator can provide stable incubation conditions up to 37°C±5°C.<br>Centrifuge<br>Vortex<br>Squirt bottle, manifold dispenser, or automated microplate washer<br>Absorbent paper for blotting the microtiter plate<br>50-300ul multi-channel micropipette<br>Pipette tips<br>Single-channel micropipette with different ranges<br>100ml and 500ml graduated cylinders<br>Deionized or distilled water<br>Timer<br>Test tubes for dilution |
| **Gene Names** | Il6 |
| **Tag Info** | quantitative |
| **Protein Description** | Sandwich |
| **Component** | A micro ELISA plate --- The 96-well plate has been pre-coated with anti-rat IL-6 antibody. This dismountable microplate can be divided into 12 x 8 strip plates.<br>Two vials lyophilized standard --- Dilute a bottle of standard at dilution series, read the OD values, and then draw a standard curve.<br>Biotin-labeled IL-6 antibody (100 x concentrate) 1 x 120 µl ---Act as the detector |

antibody.
HRP-avidin (100 x concentrate) 1 x 120 µl --- Avidin binds to the detection antibody, and HRP catalyzes the TMB substrate and thus changes the solution color.
Biotin-antibody Diluent 1 x 15 ml ---Dilute the Biotin-antibody solution.
HRP-avidin Diluent 1 x 15 ml ---Dilute the HRP-avidin solution.
Sample Diluent 1 x 50 ml---Dilute the sample to an appropriate concentration.
Wash Buffer (25 x concentrate) 1 x 20 ml --- Wash away unbound or free substances.
TMB Substrate 1 x 10 ml --- The TMB-HRP coproduct appears blue after adding the chromogenic agent. After the enzyme reaction is terminated, the TMB product changes from blue to yellow. It can be quantified in the colorimeter.
Stop Solution 1 x 10 ml --- Stop the color reaction.
Four Adhesive Strips (For 96 wells) --- Cover the microplate when incubation.
An instruction manual

## Description

The rat interleukin 6 (IL6) ELISA kit is a valuable tool for researchers working with rat samples, offering a sensitive detection range from 0.312 pg/ml to 20 pg/ml with a remarkable sensitivity of 0.078 pg/ml. This kit is used to quantitatively detect IL6 in serum, plasma, and tissue homogenate from rats. The assay principle is based on a sandwich ELISA method, ensuring accurate and precise results. The assay can be completed within 1-5 hours, requiring a sample volume of 50-100 µl. The detection wavelength is set at 450 nm, providing reliable readings for IL6 levels in rat samples. Researchers can trust this kit to provide robust data on IL6 levels in rat biological samples, aiding in studies associated with inflammation and cytokine regulation. The kit is a bestseller because of its excellent parameters and has been cited in more than 325 articles.

In rats, IL6 responds to different stressors, including inflammatory and psychological stress. The expression of IL-6 in the rat brain has been linked to sustained hypothalamic inflammatory responses during fever induced by LPS [1]. Furthermore, IL-6 exerts anti-inflammatory effects through activating STAT3, thus protecting islets and β-cells from pro-inflammatory cytokine-induced apoptosis and loss of function [2]. IL-6 can activate target cells through classical and trans-signaling pathways [3][4]. Investigating IL-6's role in the central nervous system (CNS), a neuroprotective effect was observed when recombinant IL-6 was injected into the cerebral ventricles of rats [5].

References:
[1] J. Damm, G. Luheshi, R. Gerstberger, J. Roth, & C. Rummel, "Spatiotemporal nuclear factor interleukin?6 expression in the rat brain during lipopolysaccharide?induced fever is linked to sustained hypothalamic inflammatory target gene induction", The Journal of Comparative Neurology, vol. 519, no. 3, p. 480-505, 2010. https://doi.org/10.1002/cne.22529
[2] F. Lebreton, R. Hanna, C. Wassmer, K. Bellofatto, L. Perez, V. Othenin?Girardet al., "Mechanisms of immunomodulation and cytoprotection conferred to pancreatic islet by human amniotic epithelial cells", Stem Cell Reviews and Reports, vol. 18, no. 1, p. 346-359, 2021.

https://doi.org/10.1007/s12015-021-10269-w
[3] M. Conceição, L. Forcina, O. Wiklander, D. Gupta, J. Nordin, B. Vrellakuet al., "Engineered extracellular vesicle decoy receptor-mediated modulation of the il6 trans-signalling pathway in muscle", Biomaterials, vol. 266, p. 120435, 2021. https://doi.org/10.1016/j.biomaterials.2020.120435
[4] H. Ju, Y. Byun, J. Mok, & C. Joo, "The blockade of il6 counterparts the osmolar stress-induced apoptosis in human conjunctival epithelial cells", Journal of Ophthalmology, vol. 2016, p. 1-7, 2016. https://doi.org/10.1155/2016/8350134
[5] L. Ziegler, P. Frumento, H. Wallén, U. Faire, & B. Gigante, "The predictive role of interleukin 6 trans-signalling in middle-aged men and women at low-intermediate risk of cardiovascular events", European Journal of Preventive Cardiology, vol. 27, no. 2, p. 122-129, 2019. https://doi.org/10.1177/2047487319869694

## Typical