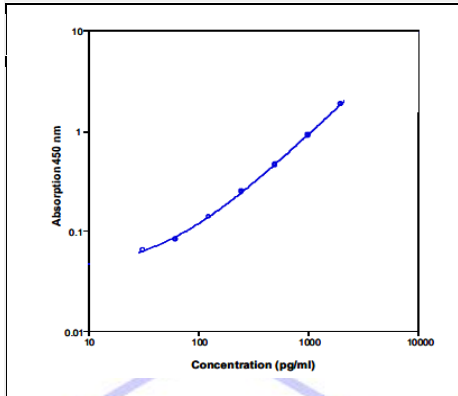


### RAT INTERLEUKIN-6 ( IL-6) ELISA KIT, CAT# 6430-10

The Rat IL-6 ELISA Kit is a sensitive sandwich ELISA for the measurement of Rat IL-6 in serum and cell culture supernatants.



#### Rat IL-6 ELISA Kit Features

- Highly specific Anti- IL-6 IgG pre-coated, stabilized, ready-to-use 96-well strip plate, suitable for multiple runs over 6-12 months.
  - Lyophilized Rat IL-6 standards@4000 pg/ml that is used to make additional standards as per manual at **31, 63, 125, 250, 500, 1000, 2000 pg/ml**).
  - 50 ul samples (dilute 1:2-1:100 if necessary); 3hrs, 10 mins. 2 incubation steps at 37°C.
  - Sensitivity~12 pg/ml; Specific for Rat IL-6 with no detectable cross-reactivity with any other cytokine
  - Storage (2-4°C) , Shelf life : 12-18 months
- Contains all necessary reagents. For in vitro research use only.

**Assay Procedure:** Allow all reagents to reach room temperature. Arrange and label required number of strips.

- Step 1.** Pipet **100 ul or 50 ul each** of pre-diluted stds, samples containing native or recombinant protein, and controls. Mix gently and incubate at RT for **120 min**.
- Step 2.** **Aspirate or remove well contents and add 100 ul of detection anti Rat IL-6 antibody** conjugate to all wells, mix gently and incubate at room temp for **60 mins**.
- Step 3.** **Aspirate and wash 6X**. Add 100 ul of the 2<sup>nd</sup> detection antibody reagent. Mix gently and incubate for 30 min at 37°C.
- Step 4.** **Aspirate and wash 6X** Add **100 ul of TMB Substrate** solution to all wells, mix gently, and incubate at RT for **10 min**. Blue color develops in positive wells.
- Step 5.** Pipet **100 ul of stop solution** into each well and mix gently (blue color turns yellow). **Measure absorbance at 450 nm**. Determine antibody conc. in each sample using the standards (results are expressed in units/ml).

#### Calculation of Results

Calculate the Net A450 values of the duplicate (deduct zero values). Plot the IL-6 concentration versus the net A450 and calculate the samples values from the standard curve.

**Species reactivity:** This kit is optimized for Rat IL-6. IL-6 detection of other species (rat, rat, monkey) etc has not been established. Intra assay: CV% <5 Inter assay: CV% <10%. Dilution parallelism was 97%.

#### General Information

Interleukin-6 (IL-6) is an interleukin that acts as both a pro-inflammatory and anti-inflammatory cytokine. In humans, it is encoded by the IL6 gene. IL-6 is secreted by T cells and macrophages to stimulate immune response, e.g. during infection and after trauma, especially burns or other tissue damage leading to inflammation. IL-6 also plays a role in fighting infection, as IL-6 has been shown in mice to be required for resistance against bacterium *Streptococcus pneumoniae*. IL-6 is also considered a "myokine," a cytokine produced from muscle, and is elevated in response to muscle contraction. It is significantly elevated with exercise, and precedes the appearance of other cytokines in the circulation. During exercise, it is thought to act in a hormone-like manner to mobilize extracellular substrates and/or augment substrate delivery. Additionally, osteoblasts secrete IL-6 to stimulate osteoclast formation. Smooth muscle cells in the tunica media of many blood vessels also produce IL-6 as a pro-inflammatory cytokine. IL-6's role as an anti-inflammatory cytokine is mediated through its inhibitory effects on TNF-alpha and IL-1, and activation of IL-1ra and IL-10. Interleukin-6 (IL6) has come to be regarded as a potential osteoporotic factor because it has stimulatory effects on cells of the osteoclast lineage, and, thus, may play a role in the pathogenesis of bone loss associated with estrogen deficiency. IL-6 has many roles essential to the regulation of the immune response, haematopoiesis, and bone resorption. It is involved not only in the hepatic acute phase response but also in adipose tissue metabolism, lipoprotein lipase activity, and hepatic triglyceride secretion. Overproduction of IL-6, a proinflammatory cytokine, is associated with a spectrum of age-related conditions including cardiovascular disease, osteoporosis, arthritis, type 2 diabetes, certain cancers, periodontal disease, frailty, and functional decline. BSF-2 is a novel interleukin consisting of 184 amino acids.

#### Related Items

6430-10 Rat interleukin-6 (rIL-6) ELISA Kit, 96 tests      6430-20 Mouse interleukin-6 (rIL-6) ELISA Kit, 96 tests  
 6430-30 Human interleukin-6 (rIL-6) ELISA Kit, 96 tests  
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