

**Name of the test**

Interleukin-6 (IL-6)

**What is this test used for?**

This test is used to quantitatively measure the level of Interleukin-6 (IL-6) in the blood.

IL-6 is a cytokine which has many functions in the body. One of its main functions is regulating immune response. IL-6 is produced by many different types of cells, including B-cells, T-cells, monocytes, fibroblasts, neoplastic cells, etc. IL-6 is usually elevated in inflammatory reactions, which in turn, may be caused by infection, injury, cancer and some other conditions.

IL-6 can be used as:

- A marker of sepsis and septic shock – IL-6 can help diagnose these conditions and evaluate prognosis in the patients;
- An early indicator of severe cases of COVID-19.

Some patients with severe cases of COVID-19 may develop “cytokine storm”, which is associated with excessive release of cytokines and rapid worsening of patient’s condition.(1–3) This may lead to multi-organ failure and death.

In these cases, IL-6 can be used as an inflammation biomarker, which can predict disease severity in patients with COVID-19.(4–6) It can also help detect worsening of a patient’s condition earlier.

**When is the test ordered?**

IL-6 may be ordered to:

- Evaluate the risk and monitor the condition in certain autoimmune disorders (for example, rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE));
- Evaluate the risk of sepsis and septic shock, as well as assessing the prognosis in patients with sepsis;
- Evaluate the severity and prognosis of COVID-19.

IL-6 test may be often ordered together with the CRP test.

**How is this test performed?**

A blood sample is taken from a vein.

**How to prepare for the test**

This test does not require any special preparation.

**Interpretation of results**

Test results should be interpreted by a doctor. It is important to note that IL-6 test alone is not enough for diagnosis and the results should be interpreted considering information from other clinical and laboratory findings.

Normally, IL-6 is not detected or its concentration is very low.

Elevated IL-6 level is usually associated with some inflammation and it can be used to evaluate prognosis in these patients as well. IL-6 might be elevated in the following conditions among others: infections, sepsis, some types of cancer, autoimmune disorders (for example, rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE)).

### References

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2. Jose RJ, Manuel A. COVID-19 cytokine storm: the interplay between inflammation and coagulation. *Lancet Respir Med*. 2020 Jun 1;8(6):e46–7.
3. Mehta P, McAuley DF, Brown M, Sanchez E, Tattersall RS, Manson JJ. COVID-19: consider cytokine storm syndromes and immunosuppression. *Lancet Lond Engl*. 2020;395(10229):1033–4.
4. Velavan TP, Meyer CG. Mild versus severe COVID-19: Laboratory markers. *Int J Infect Dis*. 2020 Jun 1;95:304–7.
5. Han H, Ma Q, Li C, Liu R, Zhao L, Wang W, et al. Profiling serum cytokines in COVID-19 patients reveals IL-6 and IL-10 are disease severity predictors. *Emerg Microbes Infect*. 2020 Jan 1;9(1):1123–30.
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