

Name of the test

Tacrolimus test

Alternative name of the test

FK 506

What is this test used for?

This test is used for the quantitative determination of tacrolimus (FK 506) in the blood. Tacrolimus is an immunosuppressive drug that is used in patients with allogeneic organ transplantation. In these patients, tacrolimus reduces the risk of organ rejection. In addition to that, this drug might be also used for some autoimmune disorders, for example, myasthenia gravis, arthritis and atopic dermatitis.

There are different forms of tacrolimus – it can be used as an injection, capsules, ointment, etc. Tacrolimus may have some serious side effects – infection, hypertension, liver and kidney disorders, blurred vision, cardiac damage, hyperkalemia, hyperglycemia, diabetes mellitus, itching, lung damage, as well as neuropsychiatric symptoms – insomnia, depression, nightmares, neuropathy, tremor, etc.

Considering the above-mentioned side effects, it is essential to find out the optimal concentration of tacrolimus in the blood.

On one hand, tacrolimus concentration should be high enough to minimize the risk of organ rejection. On the other hand, it is also important to make sure that its concentration is not too high, in order to minimize the risk of the side effects.

When is the test ordered?

This test may be ordered when a patient is treated with tacrolimus in order to monitor its concentration in the blood. Monitoring of tacrolimus concentration is especially important if the patient is also receiving some medications that affect CYP3A4.

Based on the test results, the doctor might adjust the dose of tacrolimus. By finding the optimal dosage of tacrolimus, immunosuppressive effect could be achieved with minimal risk of side effects and toxicity.

How is this test performed?

A blood sample is taken from a vein.

How to prepare for the test

No special preparation is needed. However, some factors and medications may affect the test results, so it is essential to consult the doctor before taking the sample.

For tacrolimus test, it is also important to consider when the blood sample is collected – usually this is done right before receiving the next dose of tacrolimus. This makes it possible to compare the test results and monitor tacrolimus concentration.

Interpretation of results

The test results should be interpreted by a doctor, considering information from other clinical and laboratory findings.

It is essential to also consider the role of other medications the patient is receiving, the type of transplant and some other factors. Based on this information, the doctor may find out the optimal concentration of tacrolimus for the patient, and this makes it possible to minimize the risks of both organ rejection and tacrolimus side effects.