



Tacrolimus by LC/MS/MS

Effective January 8, 2019, Laboratory Alliance of Central New York will send out specimens for tacrolimus testing by Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS) to our reference lab (ARUP Laboratories).

Good agreement can be expected between ARUP's LC-MS/MS method and our in-house LC-MS/MS method (which will be discontinued) because both are based on LC-MS/MS technology, which is considered the gold standard for tacrolimus testing.

Tacrolimus (Prograf®, FK506) is a potent immunosuppressive drug that is widely used for the treatment of rejection following liver, kidney, heart, and other organ or tissue transplants. Absorption from the gastrointestinal tract and metabolism of the drug can be variable within an individual and between individuals. This, together with the potentially toxic side effects (mainly nephrotoxicity), necessitate the monitoring of blood concentrations of tacrolimus.

LC/MS methodology is preferred for the quantitation of tacrolimus because of its specificity for the parent drug. Immunoassay methods, in contrast, are known to cross-react with various drug metabolites.

Test details, specimen requirements and ordering information are included in the table below:

Test Code:	TACROL
Specimen requirements:	1 3-mL lavender (EDTA) tube
Storage and Transport:	Transport to laboratory refrigerated or ambient. Specimen requirements: 1 mL whole blood (min: 0.25 mL).
Stability:	Ambient: 24h; Refrigerated: 2 weeks; Frozen: 2 months
Unacceptable Conditions:	Serum or plasma. Specimens left at room temperature for longer than 24 hours. Clotted specimens.
Testing Schedule:	Sun - Sat
CPT Codes:	80197
Billing Code:	5011865

Please note the following new therapeutic ranges for tacrolimus:

	Therapeutic Range
Kidney transplant	0-3 months post-transplant: 7.0-20.0 ng/mL 3 months and older: 5.0-15.0 ng/mL
Heart transplant	0-3 months post-transplant: 10.0-20.0 ng/mL 3 months and older: 5.0-15.0 ng/mL
Liver transplant	1-12 months post-transplant: 5-20 ng/mL
Toxic value	Greater than 25 ng/mL

Questions regarding this test may be directed to Dr. Roy Huchzermeier at 315-410-7221 or RoyHuchzermeierPhD@lacny.com, or Cheryl Haskins, MS, MT(ASCP)SC, Chemistry Special Projects Coordinator, at cherylhaskins@lacny.com.

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