

## [National AIDS Treatment Advocacy Project](#)

### **Laboratories That Offer the Ultra-sensitive PCR Test to Individuals**

On July 14 and 15, 1997, the FDA held a public hearing to discuss using viral load as a primary endpoint in clinical studies. The reports from days one and two of the hearings are posted to this web site. On the second day there was considerable discussion about using the Roche Ultra-sensitive PCR viral load test rather than the 400 copy test. The Ultra-sensitive test measures to 50 copies/ml, while the standard approved tests used commonly to measure viral load are the Roche Amplicor 400 copy test and the Chiron bDNA 500 copy test.

There is some difference of opinion about two concerns, (1) whether or not measuring viral load to 50 copies/ml is helpful in making treatments decisions, and (2) is the test well validated enough to give reliable results. Each laboratory listed below has told me they validate their testing in house. You may want to speak to the lab yourself or ask your doctor to call to ask about their testing as there can be differences between labs in the reliability or accuracy of the results they obtain. You want a lab who has validated their testing adequately so the results will be reliable.

Despite differences of opinion about using the 50 copy test, the ACTG and the pharmaceutical industry are using the 50 copy test in clinical trials. Some individuals may want to have access to using this test. I recommend reading my report of the 2nd day of the FDA hearing where there is discussion of the test. The following report contains a list of commercial laboratories that offer the 50 copy test to individuals except for the University of New Mexico who said they expect to begin offering it by October 1, 1997. It has been fairly recently that this test has started to be available.

There are some differences between the labs in the way they report results which are discussed below. Generally, for the 50 copy test there is a ceiling in the value that can be reported. There is a range in ceiling between some of the labs which is between 30,000 and 100,000 copies/ml and is discussed below.

**The ceiling.** The technology for the Ultrasensitive viral load test is relatively new. As the values go higher, say to 30,000 or 50,000 copies/ml, the more variability there can be. This test is meant to measure viral load most accurately in the lower end, i.e. from 50 to 5,000-10,000 copies/ml, for the best accuracy. When you have a higher result it may not be accurate and you may want to retest with the Amplicor standard 400 copy test. The lab should have saved your sample in refrigeration. You can call the lab back and ask them to conduct the 400 copy Amplicor Test on your sample without having to redraw another sample. The labs surveyed below had a variety of ceiling levels up to which they were reporting a result which varied from 30,000 to 100,000 copies/ml. You can call the lab to ask them about their ceiling value. It is my impression that there can be too much variability beyond a certain level using this test. Again, if your value is, for example, above 20,000 copies/ml, you may want to retest with the standard 400 copy Amplicor test.

**Test Results Variability.** As with the standard viral load tests, although not common,

test results can have variability because of several reasons. From 50 copies/ml and above you can see a 2-fold variability within a given lab just based on the performance of the procedures for the test. You can see a 2-3 fold biological variability due to your own changes within your body (fluctuations in immune system, colds, flus, or vaccines); as you may know you can get different CD4 counts from one day to the next. All together, it is estimated that a 5-fold variability may fall within normal test result variability.

For example, a 5-fold variability can consist of a change from 10,000 copies/ml to 50,000 copies/ml, or a change from 50 copies/ml to 250 copies/ml. Changes of this magnitude or greater is a signal that your viral load may be rebounding and therapy may be failing. If you detect a 2-, 3-, or 4- fold increase in viral load from, for example, 10,000 to 30,000 copies/ml (3-fold), that should signal a warning that you may want to retest within a couple of weeks. If your second test is again 30,000 copies/ml this may be a signal that your viral load has in fact increased.

You should discuss the changes with your doctor. At this point you may or may not want to alter your therapy regimen. There are a number of key considerations in deciding to change or alter therapy. Are there any drugs available that you haven't used? It is usually crucial to insert at least two and preferably three drugs you've never before taken into your regimen. Your goal should be to lower your viral load to undetectable or as low as possible, but you also want to consider planning for your next change in regimen. You don't want to exhaust your options. That is where considerations of resistance and cross-resistance are key to selecting a regimen without wasting individual drugs.

One option to consider is intensification. If your viral load has not increased to too high a level, adding one drug may be enough to lower your viral load to undetectable, but you should be cautious with this approach. Because if your viral load is for example 30,000, the addition of one new drug may not be adequate suppression of viral load. Many of these decisions are judgement calls that should be discussed between a knowledgeable doctor and patient.

In the ritonavir/saquinavir study, 7 individuals who did not reach <200 copies/ml (undetectable) by 3- 6 months were permitted to add two nucleosides. Coincidentally, they all added d4T+3TC. 6/7 went below 200 and Abbott has reported that they have remained undetectable out to 4-16 weeks of follow-up. I assume their viral load was low enough so that adding the additional therapy was adequate to reach 200 copies/ml.

Another potential source for variability can be between labs. So it is recommended that you continue testing in the same lab. If you do a test in one lab this month, but the second test next month is at a different lab you may receive different results just because of lab variability.

**Shipping your blood sample.** With each lab listed below, prior arrangements must be made for shipping. It may be easier to arrange shipping with a large lab network like LabCorp. Cenetron Diagnostics said they would pay for shipping. Some other labs were anxious to help your doctor's office set up a system for shipping. You can call the lab for information but ultimately your doctor's office will have to call the lab to make arrangements.

**Insurance reimbursement and cost.** There were a variety of cost and reimbursement arrangements between the labs. You or your doctor's office can call to discuss the different options. Most labs said private insurers were paying for the test. New York State medicaid is not yet generally paying for the test, but Specialty Lab said they are receiving and accepting NYS medicaid reimbursement. Immediately below is a table for contact information followed by brief description of the reporting of results, payment and reimbursement and cost for the test. Some of the labs listed below may be more convenient for an individual than other labs based on location. Most of the labs told me that private insurers were reimbursing for the test, but labs often have different reimbursement arrangements and some have several types of arrangements to choose from. If you are paying cash, pricing can vary between labs, so it is recommended to discuss cost with the lab. Following the table is a brief discussion about each lab. You or your doctor can call the lab to discuss these important concerns.

Some of the labs use the Roche test while other labs use a what they call a "home brew", where they have put together their own test. Based on my research, using the Roche test kit may produce more consistently reliable results but a "home brew" can be just as accurate and reliable. This is another question you may want to ask the lab and your doctor about.

Lab	Contact	City & State	Phone #
Cenetron Diag	Dwight Dubois	Austin, TX	512 445-5398
Consolidated Lab	Jennifer Archer	Van Nuys, CA	818 994-9714
LabCorp	Carrie Johnson	RTP, NC	800 533-0567
Univ of New Mexico	Steve Young	Albuquerque, NM	505 272-8888
Specialty Lab	client services	Santa Monica, CA	800 421-4449
SRA Technologies	Paula Teufel	Rockville, MD	301 548-2677
Quest Diag	Ray Fenwick	San Juan Cap., CA	714 728-4311

Below you will see that some labs report it to you if they cannot find any virus at all. Remember the accuracy of test results are most reliable when reported as either below or above 50 copies/ml. You can test the same sample today and not find any virus at all, but if you conduct the same test, in the same lab the next day you may find 20 copies/ml. So not finding virus does not mean virus is not present.

### **Cenetron Diagnostics**

This is an independent laboratory. Their test result will tell you if you are below 50 copies/ml, if you are below 50 copies/ml but they cannot detect virus, or if you are above 50 copies/ml they will give you a value such as 250 copies/ml or 15,000 copies/ml. They use the Roche Ultrasensitive test and the ceiling on the highest value they report is 50,000 copies/ml.

The lab is located in Austin, Texas but will make arrangements with you and your doctor office to set up an account. The best way is to have your doctor call to make arrangements. This lab will pick up the shipping expense.

### **LabCorp, or Laboratory Corp. of America**

This lab is part of a network of laboratory services throughout the USA. They will report the test results essentially the same as described for Cenetron but LabCorp's ceiling is 30,000 copies/ml. They find reimbursers are paying for the test if submitted properly. But NYS medicaid is not yet paying. Individuals from any state but Hawaii can access the test through LabCorp. They suggested having your doctor call LabCorp to arrange a price.

### **SRA Technologies**

This is a small independent lab located in Rockville, MD. You can call them for information on how they report results but they are similar to other labs. Your doctor should call to make shipping arrangements. They don't have reimbursement arrangements. They will send a bill to your doctor's office.

### **University of New Mexico**

This independent lab is located in Albuquerque which may be most useful for individuals living within that region including Colorado. They are working on a ceiling level now but expect it to be at least 50,000 copies/ml. They expect to be offering the test to individuals by October 1. Your doctor should call for arrangements.

### **Quest Diagnostics**

Quest has a network of labs in different regions. They will report to 40 copies/ml unlike the other labs reporting to 50 copies/ml. But, they report either above 40 or below 40. If your value is above 40 copies they will report to you a specific value up to a ceiling of 100,000 copies/ml. You can call their 800 telephone number to find out if there is a regional lab in your area or how to make shipping arrangements.

### **Consolidated Lab**

They are an independent lab located in Van Nuys, California that tests samples for clinical studies for drug companies such as Merck, Roche, Glaxo Wellcome, and Boehringer Ingelheim; they offer their testing services to individuals as well. They will report the results similar to other labs: 50 copies/ml, no virus detected at all, or a value above 50 copies, such as 250 or 5,000 copies/ml. When asked about their ceiling, they told me the ACTG's ceiling is 10,000 copies/ml and they are in the process of defining a ceiling for their lab. They have flexible reimbursement arrangements. This lab is

currently licensed to do the shipping and testing in three states: New York, Florida, and California. You and your doctor can call to make shipping arrangements.

Consolidated is part of a group of HIV medical practices which include an office in New York City. They are setting up a new system expected to be in place by about September 26 where you will be able to visit their NYC office for testing with the Ultrasensitive 50 copy test. After Sept. 26th, you can call Richard Fung at Manhattan Medical Care 1780 Broadway (12 floor, ph 212 787-0900). Private insurance is covering the test. Eventually, blood samples will be tested at the NYC office, but until then there will be about a \$25 charge for shipping your sample to their California lab.

### **Specialty Lab**

They offer both the Roche Ultrasensitive test or a "homebrew." You have to request the Roche test or they may automatically use their home-brew test. The lower level of detection for the Ultrasensitive is 40 copies/ml in their lab, and for the homebrew it is 25 copies/ml. They have no ceiling on the upper level of reporting; they said reporting is linear to over 1 million copies/ml in their lab. They said that they are receiving reimbursement for the test from New York State medicaid. Your doctor can call the 800 number to open an account or ask questions. The Specialty Lab test is available through certain larger lab networks such as Smith Kline.