In 2006, the Centers for Disease Control and Prevention (CDC) established LAMP as a continuation of the Blood-Lead Laboratory Reference System, an earlier quality assurance program, to improve the overall quality of laboratory measurements of inorganic toxicants in whole blood.

# LAMP

## Lead and Multi-Element Proficiency

## What the Program is About

CDC's Lead and Multi-Element Proficiency (LAMP) program is a voluntary laboratory quality-assurance program that focuses on whole blood multi-analyte quality assurance. More than 120 laboratories, including 37 international laboratories, participate in LAMP. Each quarter, these laboratories are required to analyze a CDC-provided set of blood samples and return those results to CDC. In turn, CDC provides detailed reports to the laboratories about how well they performed these analyses. LAMP results are not used for accreditation or certification; however, the program has been shown to improve the precision and accuracy of blood lead, cadmium, and mercury measurements. In the future, other inorganic toxicants, such as arsenic, selenium, and uranium, will be added to the program.

## How to Enroll in LAMP

1. Go to http://www.cdc.gov/labstandards/lamp.htm and complete the application form.

2. E-mail the completed form to LAMP@cdc.gov or fax it to (770) 488-4097. A confirmation e-mail will be sent within 72 hours.

3. Your laboratory will be enrolled immediately upon receipt of the form and will receive a set of samples each February, May, August, and November.

## What the Program Provides

CDC provides each laboratory with quality control materials, analytical guidelines, and technical training and consultation so that these laboratories can accurately measure inorganic toxicant levels in their national surveys. Four times a year, CDC sends participating laboratories samples that have been prepared using Inductively Coupled Plasma-Mass Spectrometry (ICP-MS). The laboratories use their standard methods to analyze the samples and then send the results to CDC. Each laboratory receives an individualized report on their results, which the laboratory will use to:

- **Verify calibrations**
- **Troubleshoot analytical problems**
- **Set up quality assurance or quality control programs**
- **Compare various laboratory methods**
- **Conduct research and development**

## Frequently Asked Questions

**Q:** ***Is enrolling in LAMP a long process?***

**A: No.** Once the program receives your application by e-mail or fax, your laboratory will be enrolled immediately.

**Q:** ***How much does it cost to enroll?***

**A: There is no charge.** Providing quality assurance materials is a service that CDC provides free of charge. CDC views the program as its part in the effort to help eliminate exposure and poisoning from inorganic toxicants around the world.

**Q:** ***The brochure mentions a certificate. Does that mean our laboratory receives certification?***

**A: No.** The certificate is merely a way for laboratories to verify their participation in the program and to track their progress made over the course of the year. Participation in this program cannot provide nor authorize certification or accreditation.

**Q:** ***If you calculate progress scores, does this mean our laboratory can fail?***

**A: No.** This is not a pass or fail program. A passing score means that a round of samples falls within two z-scores of the target values that CDC assigns. A score is calculated simply to measure a laboratory's progress. The emphasis of LAMP is on measurable and sustained progress.

**Q:** ***My laboratory was opened recently and has many improvements to make. Can we still enroll?***

**A: Yes.** Any laboratory can enroll. CDC supports good laboratory practice and would like to help laboratories increase the reliability of whole blood analysis around the world. As such, we encourage all laboratories performing whole blood analysis to enroll.

***For more information, contact***
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