

# Labkey Flow Cytometry Solutions

## Flow Cytometry Solutions FAQ

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### **Q: WHO IS LABKEY?**

LabKey is a privately held software and professional services company based in Seattle, WA. The company provides LabKey Server, a powerful open source platform for processing and analyzing biomedical research data. To address specialized research requirements and unique workflows, LabKey software developers work hand-in-hand with scientists and statisticians alike to make enhancements to the platform. These enhancements become freely available to the broader scientific community, providing an ever-more powerful foundation for future research. The company's primary customers are biomedical researchers who need to integrate information from observational studies with large volumes of experimental data from modern, high-through technologies (mass spectrometry, flow cytometry, microarray, microplate, ELISpot, Luminex, etc.).

### **Q: WHAT TYPES OF LABS USE LABKEY FLOW CYTOMETRY SOLUTIONS?**

LabKey flow cytometry solutions typically run in full production mode in two types of labs today:

- ▶ Biomedical research facilities that run flow-cytometer-based clinical and pre-clinical studies on hundreds to thousands of patients. These facilities seek the ability to simultaneously process hundreds of flow runs at the same time. They also seek the ability to link clinical information to experimental results and to track changes over time. For this type of lab, using a solution that is 21 CFR 11 compliant is important.
- ▶ Academic and commercial core facilities that perform quality assurance, data distribution and data management services to the customers they serve. Their customers typically number in the 50 to 250 range and generate several terabytes of data weekly.

### **Q: CAN YOU GIVE ME EXAMPLES OF WHO THESE CUSTOMERS ARE?**

The Flow Cytometry lab at the University of Washington and the Fred Hutchinson Cancer Research Center is a good example of a core lab that uses a LabKey flow cytometry solution to distribute flow cytometer data out to its customers. The Statistical Center for HIV/AIDS Research and Prevention, the Center for HIV-AIDS Vaccine Immunology at Duke, the Gates-funded Collaboration for AIDS Vaccine Discovery and the Seattle Biomedical Research Institute (SBRI) and are good examples of labs using LabKey solutions to manage their flow cytometer-based observational studies.

### **Q: WHAT ARE SOME OF THE KEY FEATURES OF THE LABKEY'S FLOW CYTOMETRY SOLUTIONS?**

LabKey's flow cytometry solutions compute the compensation matrix, apply gates, calculate statistics, and generate graphs. Results are stored in a relational database and displayed using secure, interactive web pages. Researchers can then define custom queries and views to analyze large result sets. Integrated R support allows sophisticated customization of analyses within the server. Gate templates can be modified, and new analyses can be run and compared. Results can be printed, emailed, or exported to tools such as Excel for further analysis. A LabKey flow solution enables quality control and statistical positivity analysis over data sets that are too large to manage effectively using PC-based solutions.

### **Q: WHAT ARE THE PRIMARY BENEFITS OF USING A LABKEY FLOW CYTOMETRY SOLUTION?**

Research labs and institutes who need to distribute, centralize and securely share terabytes of flow cytometer data are key beneficiaries. Without a LabKey flow cytometry solution, these labs typically spend inordinate amounts of time uploading data to FTP servers, loading data into internal databases,

gathering quality metrics for their customers and distributing results. With a LabKey flow cytometry solution, all data records are automatically uploaded into a relational database. This eliminates the need for maintaining an FTP server, makes assessment of data quality a one-click action and automates data distribution to customers. The net result is less time wasted managing large volumes of data and more time available for experiments and analyses that advance research objectives.

#### **Q: ARE THERE ANY OTHER IMPORTANT BENEFITS?**

Absolutely. A LabKey flow cytometry solution is accessed through common web browsers on Windows, Macintosh and Linux devices. Authorized collaborators can securely access shared data and views whenever they want and wherever they are. This makes a LabKey flow solution ideal for multi-center studies or for core labs seeking to distribute data to customers in remote locations.

#### **Q: DOES LABKEY OFFER PROFESSIONAL SERVICES IF WE NEED TO ENHANCE AND CUSTOMIZE THE SYSTEM?**

Yes, LabKey's professional services team routinely engages with clients to add new features and capability to the software via custom development projects. LabKey also provides training, update assistance and software support and maintenance programs to help our clients get started rapidly with minimal disruption to their labs.

#### **Q: HOW MUCH DO LABKEY SOLUTIONS AND SERVICES COST?**

It really depends on what you are looking for. We have clients who have invested hundreds of thousands of dollars over multiple years to build out feature-rich solutions optimized for their exact workflows. In contrast, we have clients who invest tens of thousands of dollars to optimize a single specific workflow and accompanying report.

#### **Q: WHAT PROGRAMMING LANGUAGE IS USED TO CREATE LABKEY SOLUTIONS?**

LabKey Server is written in Java and runs on most modern operating systems, including Windows, Linux, Solaris, and Mac OSX. It can be customized and extended by skilled Java

programmers, and has a Javascript API so that developers can quickly develop and deploy new functionality.

#### **Q: WHAT TYPE OF COMPUTER INFRASTRUCTURE DO I NEED TO RUN LABKEY SERVER?**

LabKey Server acts as a web server and relies on a relational database server. It can be installed and run on a stand-alone PC, but it is most commonly deployed in production in a networked server environment. Single laboratory installations can be run on a single dedicated computer. Core proteomics facilities use LabKey Server to manage cluster pipelines with hundreds of machines.

#### **Q: WHAT SKILLS DOES MY LAB NEED TO MANAGE ITS LABKEY SOLUTION?**

LabKey's flow cytometry solutions are server-based software, so your installation will interact with other computers on your network. You should plan on identifying personnel to perform two roles: network administrator and system power-user.

#### **Q: WHERE CAN I GET MORE INFORMATION?**

More information about LabKey's solutions and services are available on the LabKey web site at [www.labkey.com](http://www.labkey.com), by emailing [info@labkey.com](mailto:info@labkey.com) or by calling a LabKey solutions specialist at **+1 (206) 701-9975**. 