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Labcyte Granted Patent for Acoustically Depositing Droplets on a Surface Prior to High Resolution Analysis

Sunnyvale, CA, February 15, 2005 – Labcyte Inc. announced today that it has been granted its 17th patent. US Patent 6,855,925 describes the deposition of droplets of low volatility fluids onto surfaces as a precursor to analyses. This technology facilitates higher-resolution imaging by delivering reagents in small droplets of fluids less prone to evaporation.

One problem associated with moving small droplets is that the highly volatile solvents traditionally used to dissolve reagents can evaporate in transit from source to destination. With very small drops or highly volatile solvents, droplets become solid particles that may not bind to the surface and may not react as desired, thus leaving the surface unprepared for subsequent analysis. Even when the droplet reaches the surface, rapid evaporation may reduce the amount of time available for a reaction to take place between the droplet and the surface. This can limit the reaction time of enzymes or the solubilization of surface materials. One example application is matrix assisted laser desorption ionization (MALDI) mass spectrometry, which is used to measure the mass of compounds suspended in a crystalline matrix. The matrix is typically dissolved in extremely volatile acetonitrile and, in one format called MALDI imaging, the droplets are arrayed on tissue samples. Smaller droplets improve spatial resolution but if they evaporate in flight, there will be insufficient interaction of the matrix with the tissue sample and decreased signal. Specially formulated droplets, as described in the patent, overcome these limitations and provide dramatically improved results, providing better spatial resolution and sensitivity at the same time.

Dr. Elaine J. Heron, Chief Executive Officer of Labcyte Inc., said, “This patent provides us with the initial steps towards developing reagents that work in concert with our unique acoustic droplet ejection products. We see immediate applications in the MALDI imaging work of Prof. Richard Caprioli of Vanderbilt University, one of the co-authors of this patent.

“Although our liquid handling approach is being used in seven pharmaceutical companies with the Echo 550 compound reformatter, we recognize that some applications will require new approaches to reagents. We see a myriad of products that will expand the applications of small volume assays.”

The Labcyte® Echo™ 550 compound reformatter uses the technologies described in US patents 6,666,541 and 6,802,593 as well as others in the company's portfolio of 17 US patents. This system received an R&D 100 award for technical innovation and was the subject of scientific presentations on its use at pharmaceutical companies in the arena of high-throughput screening (HTS).

To review the patent, please visit

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/search-bool.html&r=1&f=G&l=50&col=AND&d=ptxt&s1=6,855,925&OS=6,855,925&RS=6,855,925>

To see a video of acoustic droplet formation, please visit

<http://www.labcyte.com/aboutus/technology/2nL.mpg>

To read about other MALDI –acoustic droplet technology, please see US Patents 6,707,038 and 6,809,315.

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/search-bool.html&r=2&f=G&l=50&col=AND&d=ptxt&s1=6,707,038&OS=6,707,038&RS=6,707,038>

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/search-bool.html&r=1&f=G&l=50&col=AND&d=ptxt&s1=6,809,315&OS=6,809,315&RS=6,809,315>

For more information on the Echo 550 Compound Reformatter, please visit

<http://www.labcyte.com/products/hardware/Echo550.html>

Labcyte Inc. is a privately held company that was formed by the merger of Picoliter Inc. and Labcyte, LLC in October 2003. The company is headquartered in Sunnyvale, California and provides a line of compact liquid and plate handling systems, plastic laboratory supplies, as well as the Echo 550 compound dispenser. The Labcyte acoustic liquid handling technology has broad applications in the life science including dispensing equipment, assay systems, particle manufacturing, microarrays, and living cell transfer devices. Labcyte has 17 issued US patents on acoustic technology and over 20 U.S. patent applications pending as well as additional international filings. For more information, visit the company's website, www.labcyte.com.