

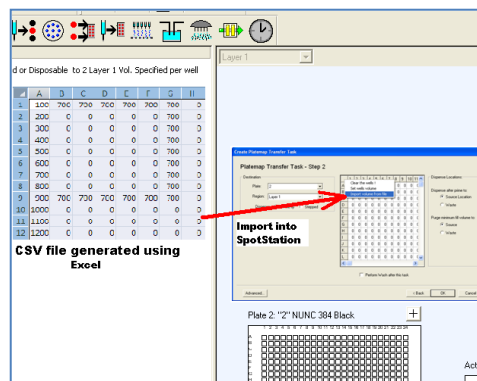
GX Application Highlight Low Volume Dispensing for SNP Genotyping

The **Labcyte GX Nanoliter Dispenser** is a high-performance liquid handling system for dispensing a wide range of reagents at volumes as low as 50 nL. With a range of on-deck accessories for reservoirs and tip washing, the GX system is a standalone bench top dispenser ideal for setting up low-volume PCR, genotyping and sequencing reactions.

- Instantly miniaturize assays and save costs
- Eliminate risks for cross contamination with advanced washing features
- Compatible with a wide range of sample and assay plates
- Low volume reservoirs reduce the dead volume for precious reagents

Nanoliter Dispensing with Lower Dead Volume

The GX control software provides a graphical interface to map transfers of cDNA along with master mix, probes and primers at varying volumes to assay plates. From this interface you can quickly and easily design assays for optimization. Reagents can be added from a range of on-deck reservoirs options to 384- or 1536-well plates in volumes between 50 nL and 50 μ L with minimal dead volume. With the Access™ workstation, the GX can be integrated with plate stacks, a centrifuge and sealer for walk-away automation. With the GX dispenser, miniaturization of PCR reactions that can provide a 20-fold reagent cost savings is straightforward.



Reservoirs

5, 12, 25 and 60 mL disposable and fixed reservoirs with dead volumes of less than 0.5mL.

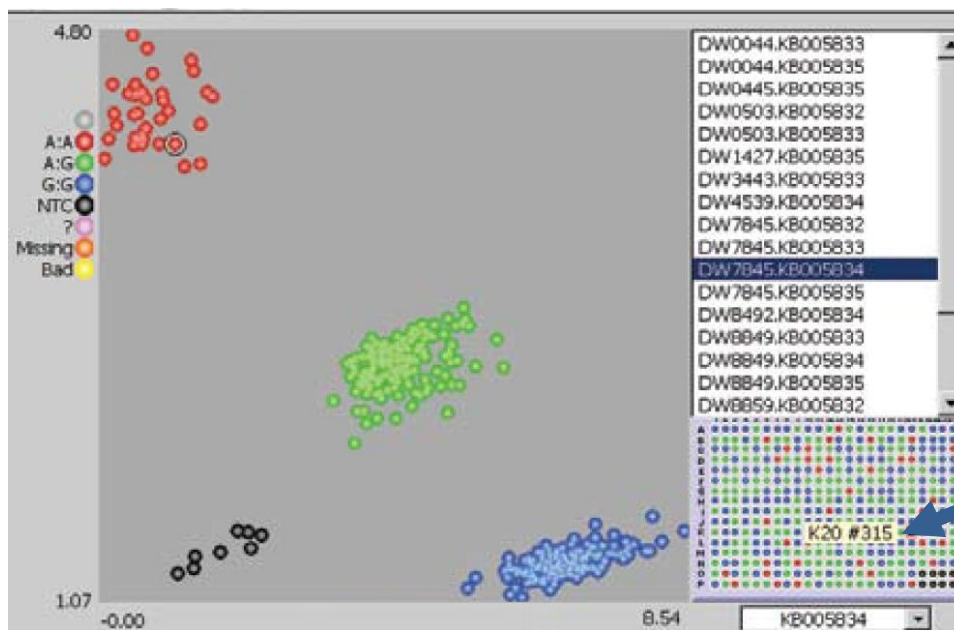


With **FastWash™** technology fluid is rapidly purged through the system's tips to eliminate carryover within minutes

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SNP Cluster Analysis

Data in the form of a scatter allelograph was generated after dispensing as little as 200 nL of master mix with the the GX dispenser. Results are compared to control samples dispensed simultaneously. Data quality is validated by the compactness of each cluster as well as the separation between clusters by fluorescent end point detection and call rates of 100%



The three clusters represent three possible genotypes of 384 individual DNA samples. The compactness of the clusters shows that within each allele type, samples are amplified in an equivalent manner, demonstrating the accuracy and reproducibility of transfers from the GX dispenser.

Excellent precision and accuracy with Deerac™ Technology

The GX nanoliter dispenser incorporates the patented Deerac technology, an electronically controlled magnetic valve, into every individually controlled dispenser tip. The tip consists of a body made from PEEK material which houses a chemically inert magnetic valve. The magnetic valve actuates in response to electrical current as negative or positive pressure drives fluid into and out of the tip. Because the technology does not require a system fluid and every tip is controlled using real-time feedback circuitry, tip-to-tip accuracy and repeatability is excellent across a wide range of viscosities and volumes. **The combined precision of the Deerac technology and the FastWash feature to eliminate carryover between different reagents (e.g., primer sets or even cDNA), makes the GX dispenser essential for miniaturizing genomic assays.**