

# Genomics

## PCR Setup

The Lynx 96VVP Technology in combination with FlexTrough allows the independent tip dispensing allowing high speed PCR Setup.

### PCR Setup

Real time PCR is a widely used tool for gene expression, mutational analysis and pathogen detection. It allows for detection of PCR products during early amplification stages leading to quantitative measurement, as opposed to traditional end-point PCR.

Thus, real time quantitative PCR (qPCR) is frequently used to precisely measure DNA content in a variety of human samples. Manual PCR setup is both tedious and time consuming in that transfer steps have the potential to introduce contamination.

Use of automated liquid handling systems to automate PCR processes can significantly improve throughput, reduce user error and maintain quality.

- Multiplexed genotyping assays
- Taqman-based PCR genotyping assays
- Real-time PCR analysis
- SNP analysis
- Cycle sequencing reaction setup
- DNA sequence plate setup - for loading onto capillary electrophoresis (CE) sequencers.

### FlexTrough Makes It Faster

The idea of FlexTrough is similar to standard qPCR setup in that a matrix is set up in both X and Y on a microplate. Traditionally, this is done with a 1, 2, 4 or 8 tip machine which uses 1 tip at a time to perform this combinatorial setup. FlexTrough allows 96 tips to perform the dispensing thus simplifying programming and increasing throughput.

	Gene # 1			Gene # 2			Gene # 3			Endogenous control gene			
AB	1	2	3	4	5	6	7	8	9	10	11	12	
1T	A	1T Gene # 1 Unknown	1T Gene # 1 Unknown	1T Gene # 1 Unknown	1T Gene # 2 Unknown	1T Gene # 2 Unknown	1T Gene # 2 Unknown	1T Gene # 3 Unknown	1T Gene # 3 Unknown	1T Gene # 3 Unknown	1T EC # 1 Unknown	1T EC # 1 Unknown	1T EC # 1 Unknown
	B	1N Gene # 1 Unknown	1N Gene # 1 Unknown	1N Gene # 1 Unknown	1N Gene # 2 Unknown	1N Gene # 2 Unknown	1N Gene # 2 Unknown	1N Gene # 3 Unknown	1N Gene # 3 Unknown	1N Gene # 3 Unknown	1N EC # 1 Unknown	1N EC # 1 Unknown	1N EC # 1 Unknown
2T	C	2T Gene # 1 Unknown	2T Gene # 1 Unknown	2T Gene # 1 Unknown	2T Gene # 2 Unknown	2T Gene # 2 Unknown	2T Gene # 2 Unknown	2T Gene # 3 Unknown	2T Gene # 3 Unknown	2T Gene # 3 Unknown	2T EC # 1 Unknown	2T EC # 1 Unknown	2T EC # 1 Unknown
	D	2N Gene # 1 Unknown	2N Gene # 1 Unknown	2N Gene # 1 Unknown	2N Gene # 2 Unknown	2N Gene # 2 Unknown	2N Gene # 2 Unknown	2N Gene # 3 Unknown	2N Gene # 3 Unknown	2N Gene # 3 Unknown	2N EC # 1 Unknown	2N EC # 1 Unknown	2N EC # 1 Unknown
3T	E	3T Gene # 1 Unknown	3T Gene # 1 Unknown	3T Gene # 1 Unknown	3T Gene # 2 Unknown	3T Gene # 2 Unknown	3T Gene # 2 Unknown	3T Gene # 3 Unknown	3T Gene # 3 Unknown	3T Gene # 3 Unknown	3T EC # 1 Unknown	3T EC # 1 Unknown	3T EC # 1 Unknown
	F	3N Gene # 1 Unknown	3N Gene # 1 Unknown	3N Gene # 1 Unknown	3N Gene # 2 Unknown	3N Gene # 2 Unknown	3N Gene # 2 Unknown	3N Gene # 3 Unknown	3N Gene # 3 Unknown	3N Gene # 3 Unknown	3N EC # 1 Unknown	3N EC # 1 Unknown	3N EC # 1 Unknown
Controls	G	1T Control FAM Pos	1T EC # 1 HEK	1T EC # 1 HEK	1T EC # 1 HEK								
	H	1T Control NTC	1T EC # 1 HEK	1T EC # 1 HEK	1T EC # 1 HEK								

