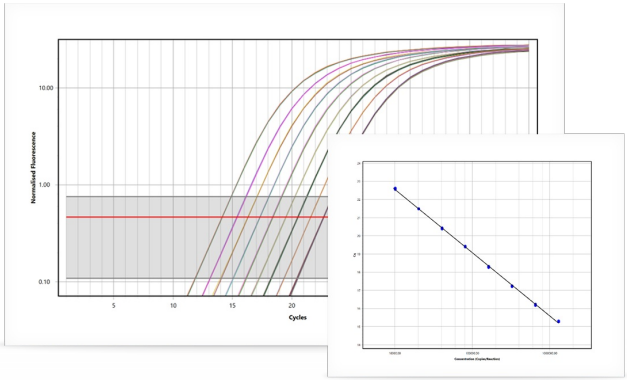
Performance

Amazing results from a small package.

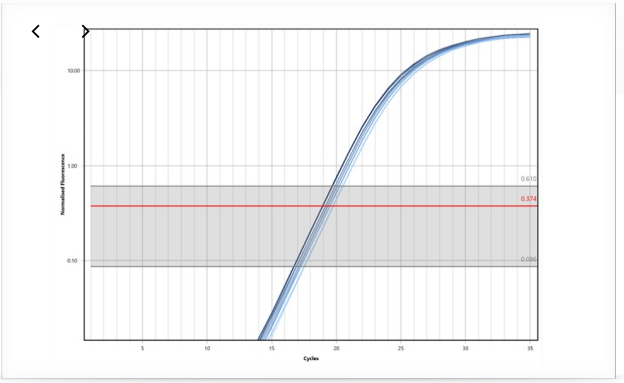
Quantitation

Confidently detect 2 fold differences in gene expression levels

Whether it's using standard curves for Absolute Quantification or determining gene expression using Relative Quantification through REST, know that the performance you get from the Mic will always ensure the highest level of quantitative precision.



Manganese superoxide dismutase gene (MnSOD)
Eight point, 2x dilution series of human genomic DNA (n = 4 each)
Efficiency = 98% (standard curve method)
R^2 = 1.00



Extreme Quantitative Precision

Detect differences within one cycle

When you need to quantify small differences in relative gene expression, Mic will deliver the extreme levels of quantitative precision you need. Especially for bacterial genetics where minor differences in gene expression can multiply into big differences.

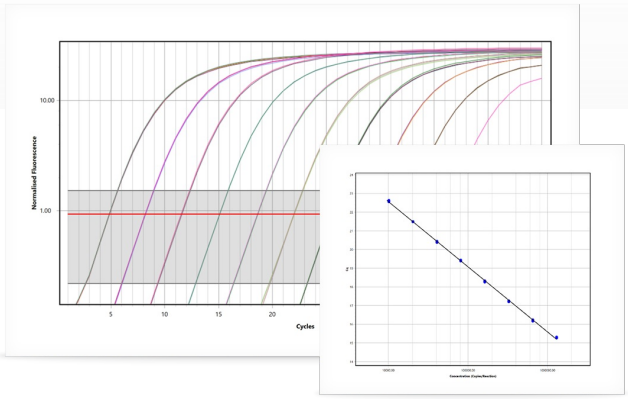
This data shows a 5 picogram dilution series clearly differentiated with 0.2 cycles between standards!

Five point dilution series of HBV plasmid cDNA template (n = 4 each)
5 picogram difference between standards
Efficiency = 98% (standard curve method)
R^2 = 0.99

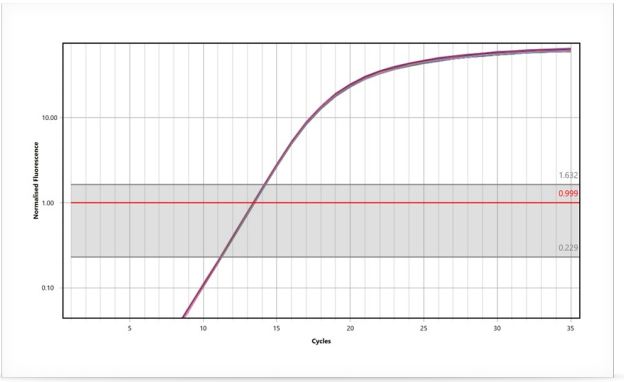
A Wide Linear Dynamic Range

Down to single digit copies of DNA

Have the power to detect high and low copy numbers of your target. Be it using Absolute Quantification to detect viral loads, or simply determining a PCR efficiency using your standard curve, Mic will deliver the dynamic range you need, accurately and precisely.



10 point, 10x dilution series of Hepatitis B virus (HBV) cDNA template
Starting amount of 3E+09 copies (n = 3 each) over 10 logs
Efficiency = 95% (standard curve method)
R^2 = 0.99



Amazing Repeatability

Ultra tight replicates every time

Be confident in the knowledge that each well is behaving identically to generate qPCR replicate data that is truly repeatable. Our focus on temperature uniformity means you can have confidence in your results whether its quantifying gene expression, determining genotypes, or measuring viral load.

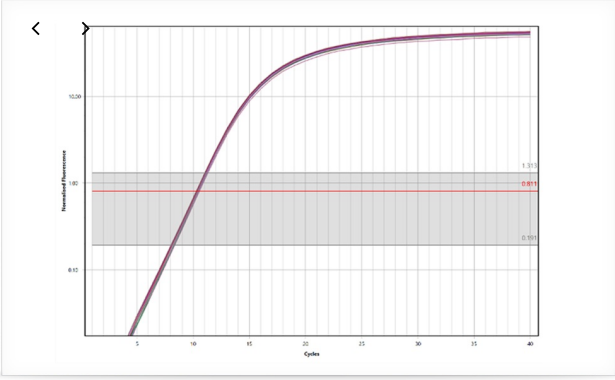
Human Manganese Superoxide Dismutase (MnSOD) (n = 48)
Standard Deviation = 0.03
Cq Difference = 0.2
Efficiency = 98% (LinRegPCR method)

Outstanding Reproducibility

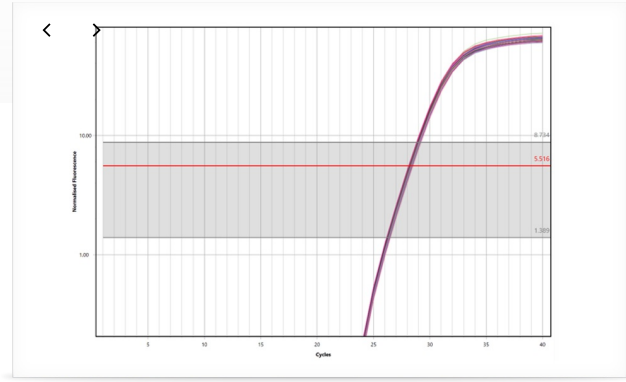
Get the same result across multiple runs and instruments

We build our instruments to perfection so that each one is identical to the next. This means we can reproduce the same result not just across multi-runs, but instruments as well. Now you can combine multiple runs with minimal concern for variation. Inter-run calibrators become more of a quality control measure than a correction tool. And using sophisticated analysis software incorporating intelligent methods such as LinRegPCR, means we can further improve the qPCR reproducibility by minimising human error through analytical automation.

	Mic 084	Mic 002	Mic 146
	Copy number %CV	Copy number %CV	Copy number %CV
Experiment 1	5.13E+06 2%	5.29E+06 3%	5.10E+06 3%
Experiment 2	5.10E+06 2%	5.21E+06 2%	4.96E+06 3%
Experiment 3	4.96E+06 3%	5.06E+06 2%	4.89E+06 3%
Combined Runs	5.06E+06 3%	5.19E+06 3%	4.98E+06 3%
Overall	**5.08E+06 3%**		



Human chromosome Y template
Template amount was 5E+06 copies/µL (n = 30)
3 different instruments and 3 different experiments set up at different times
CV across three instruments = 3%



KRAS proto-oncogene, exon 2
Template amount was 200 copies/µL human genomic DNA (n = 48)
Two different instruments and three different experiments set up at different times
CV across two instruments and runs = 6%

Reproducibility At Low Copy Number

Duplicate runs easily on different instruments

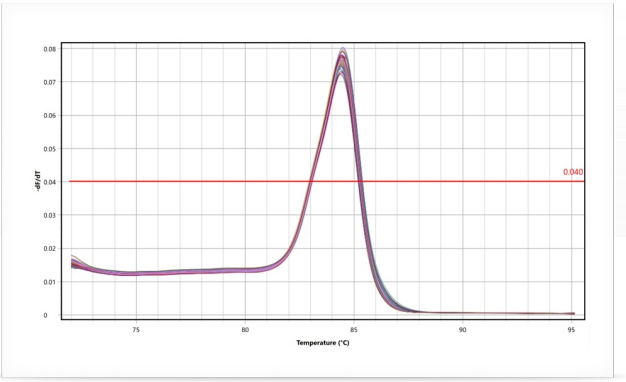
Mic's reproducibility even extends to very low copy numbers. Critical in applications such as Relative Quantification, Absolute Quantification and Copy Number Variants (CNV).

	Copy number %CV	Copy number %CV
Experiment 1	199 copies 6%	202 copies 6%
Experiment 2	201 copies 5%	199 copies 5%
Experiment 3	198 copies 5%	199 copies 6%
Combined Runs	199 copies 6%	200 copies 6%
Overall	**200 copies 6%**	

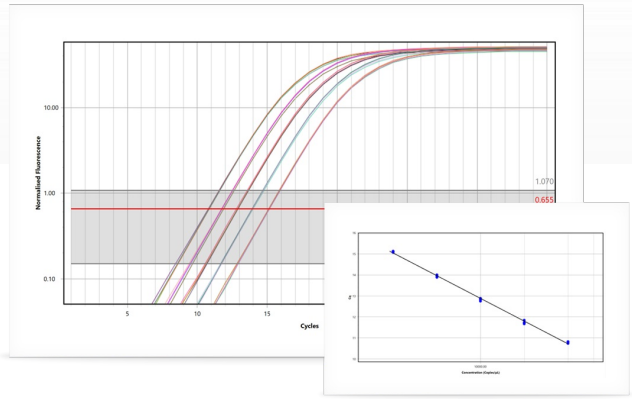
First class temperature uniformity

Temperature uniformity unlike anything else

When it's critical to distinguish small differences in Tm or Cq, temperature uniformity is at the top of your list. Mic's superior temperature uniformity of ±0.05°C at zero seconds means we have you covered for all your melt analysis genotyping and real time quantification needs.



Melt curve analysis of the MnSOD gene amplification product (n = 48)
Melt peak range = 84.44 – 84.52°C
Tm delta = 0.08°C
Uniformity measure of < ±0.05°C



Fast Cycling

Maintain assay performance even at speed

Get high quality data, fast!

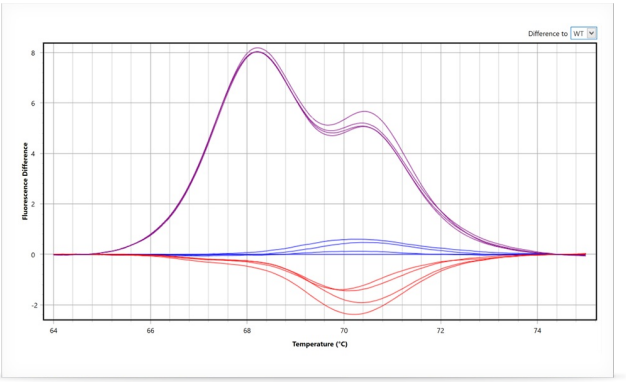
Mic's speed is on par with the fastest instruments on the market. But unlike the competition Mic's superior temperature uniformity and accuracy means you don't sacrifice on the quality of your qPCR. Completing runs in under 30 minutes is the new standard with Mic, not the exception.

5 point, 2x dilution series of Hepatitis B virus (HBV) cDNA template
Starting amount of 3E+06 copies (n = 4 each)
Efficiency = 90% (standard curve method); R^2 = 0.99
Time to complete run (including melt) = 26 min

High Resolution Melting (optional)

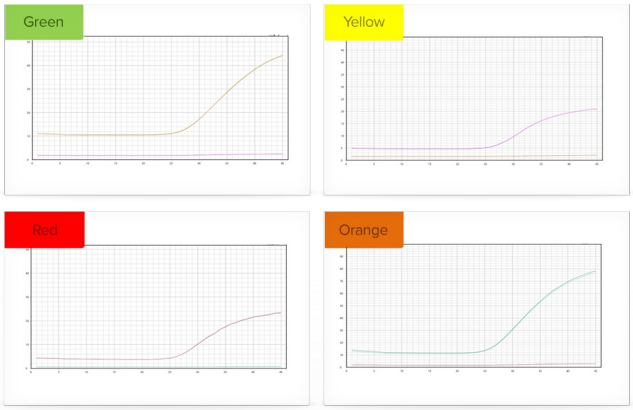
Classify difficult Class IV SNPs

Genotyping for single nucleotide polymorphisms (SNPs) or insertion-deletions (InDel), quantifying somatic mutations or epigenetic methylation levels, sequence matching for drug resistant bacteria, or gene scanning for new mutations, needs a tool like HRM. But not all HRM instruments are the same. Mic's first class temperature uniformity means you can do these things with confidence no matter what HRM saturating dye you choose (SYTO® 9, EvaGreen®, LC® Green).



Class IV SNP (A to T)

Temperature difference between alleles < 0.10°C



Individual channel high power LEDs
Individual channel detectors
Cross talk < 3% across all channels

Four Colours

Lowest possible cross talk

If it's molecular diagnostic (MDx) detection of pathogens, or genotyping using Allelic Discrimination, Mic has highly optimized filter sets to minimize your dye cross talk when multiplexing your real time PCR. With dedicated high powered LED and detectors per channel, detect all four colours in 1 sec during acquisition.

No dye colour compensation or dye calibration needed – ever!

Find your nearest distributor

Contact one of our distributors or send a general enquiry

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