PLUVIA diagnostics

bms bio molecular systems

Meet Mic

Magnetic Induction Cycler for qPCR

Fast. Accurate. Compact

Speed

Accuracy

Connectivity

Size





The world’s first Magnetic Induction Cycler for qPCR.
The box is small. The ideas are big.

www.mic-qpcr.com



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Speed

- Mic uses a patented magnetic induction technology to heat samples and fan forced air for cooling. This means fast qPCR results in less than 25 min for 35 cycles*.
- Back that up with a robust optical system that reads all channels simultaneously and running multichannel assays has never been quicker. The Mic qPCR cycler is available in either 2 or 4 channel models.
- Each channel uses an independent high intensity LED, photodetector and filter set combining together to give unparalleled detection performance.
- With a fixed optical path and no moving parts there is never any optical alignment or calibration required. Even better is that no reference dyes or crosstalk compensation is required.

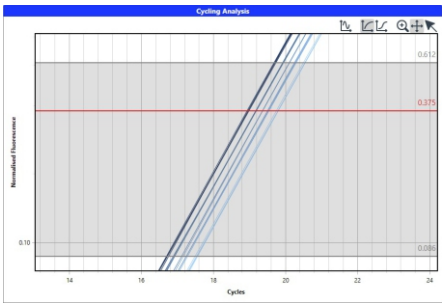
*Assays designed toward cDNA targets with short amplicon sizes and using fast cycling compatible Taq polymerases





Accuracy

- Mic's spinning aluminium rotor gives unsurpassed temperature uniformity during dynamic and static operations. All other block-based qPCR cyclers only promise static uniformity, which could lead to inaccurate data, as samples aren't heated and cooled at the same rate.
- You might think this level of accuracy requires constant calibration, but Mic's good to go right out of the box.
- You don't need to calibrate – ever.
- Combine an excellent temperature accuracy of ± 0.25°C, a first class well-to-well temperature uniformity of ± 0.05°C, and superior equilibration time uniformity (zero seconds for all wells to reach the same temperature) and you can easily classify difficult class IV SNPs that require melt temperature resolutions of less than 0.1°C.
- Excellent reproducibility between samples and repeatability between runs and instruments ensures the highest level of quantification precision; allowing for the detection of two-fold differences in gene expression levels.



Amazing performance
Five point 0.2 fold dilution series with four replicates each.





Connectivity

- Multiple Mic's can be operated from one workstation so 48 becomes 96, and 96 becomes 192. Bluetooth® technology means fewer cables too.
- Instruments can communicate via Bluetooth® or USB cable and you can connect as many as ten instruments to one PC. This means up to 480 samples can be analysed simultaneously.
- Mic's advanced software has a full suite of qPCR analysis tools to process your sample data. Individual runs can be collated into a project and analysed together.
- Naturally you want to be up and running as quickly as possible so installation has been made plug-and-play. It's as simple as installing the software and starting your first run.



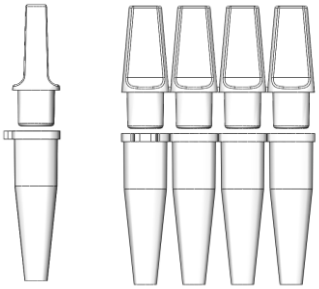


Size

- Mic takes up less space on the bench than your lab book. And weighing in at just 2 kg, this is the most portable compact qPCR cycler on the market. Even four Mic's stacked together take up less bench space than your current cycler.
- Only magnetic induction technology by way of its elegant simplicity makes it possible to achieve such a small footprint.
- The tube format uses 0.1 mL strips of four tubes and matching caps, supporting volumes of 10 to 25 µL. A tab on the first tube ensures correct orientation of tubes at all times.
- The induction rotary design further allowed us to incorporate an oil based overlay ensuring no evaporation and no condensation, without the need for a cumbersome heated lid. And no aerosols when opening a tube.



Top View



Side View Front View

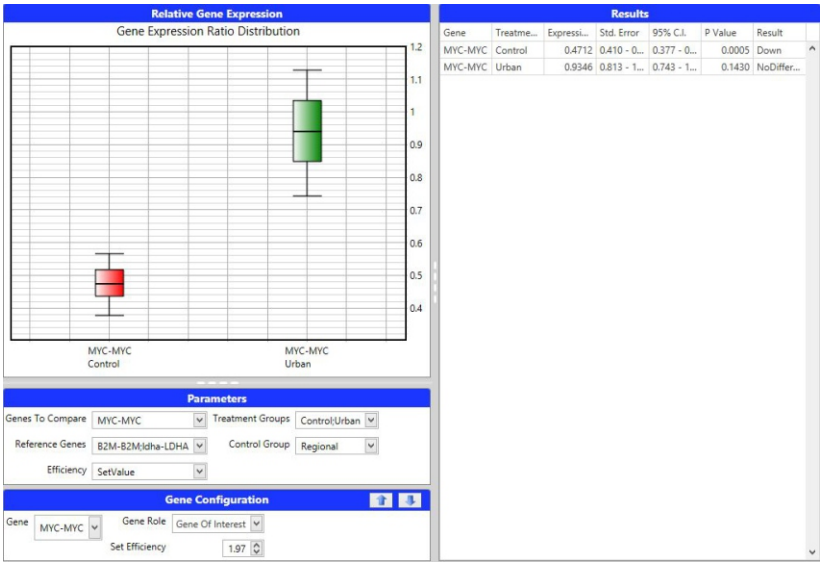


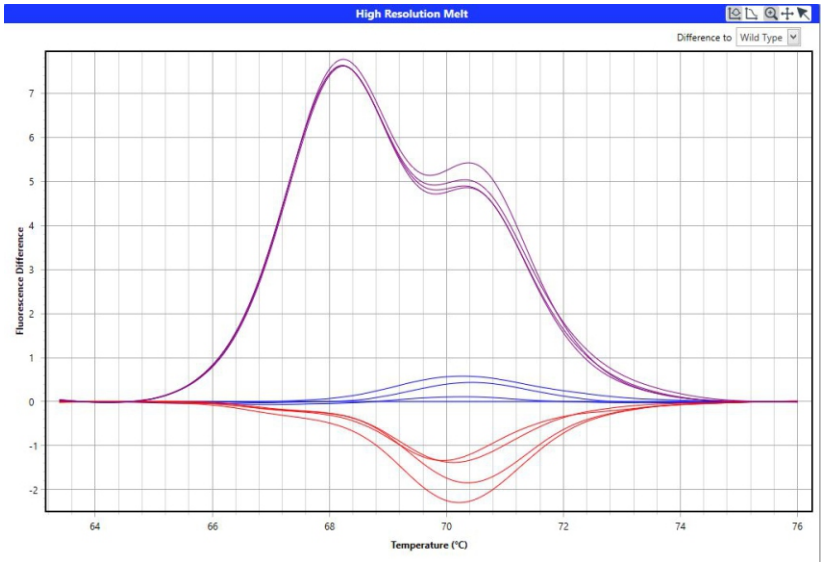
Software

It's not just the hardware that's more refined.

RQ Relative Quantification

Mic's RQ software uses up-to-date mathematical models and well-founded statistical analysis, allowing you to compare gene expression levels for different targets across multiple groups. All the necessary calculations and statistics are carried out within the software. Data is reported both numerically and graphically. With Mic's superior temperature uniformity detect differences between samples as little as 0.2 fold.





HRM High Resolution Melting

Mic's optional HRM software characterises DNA samples according to their melt behaviour so you can identify mutations, including difficult Class IV SNPs. HRM is the perfect tool for applications including determining allele prevalence, screening for loss of heterozygosity, DNA fingerprinting, DNA methylation, species identification and calculating the ratio of somatic acquired mutations.

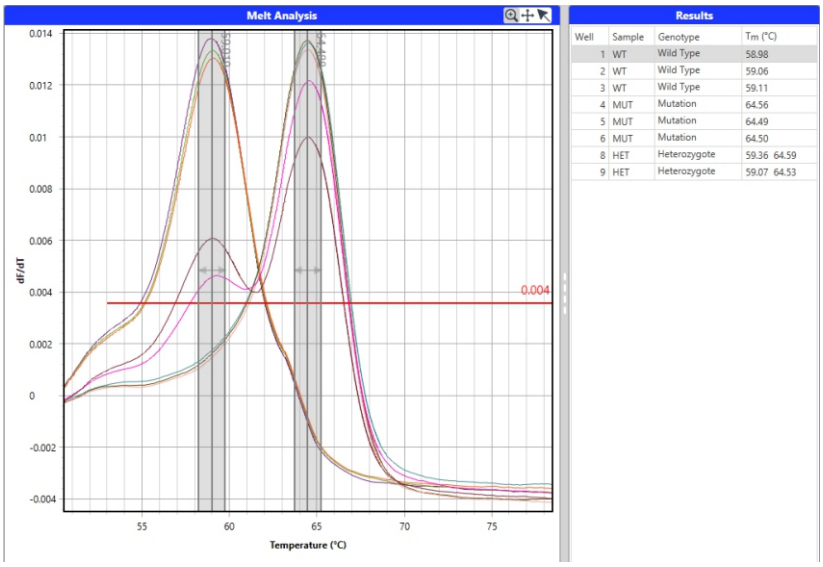
Mic's software is user-friendly and packed with intelligent features.

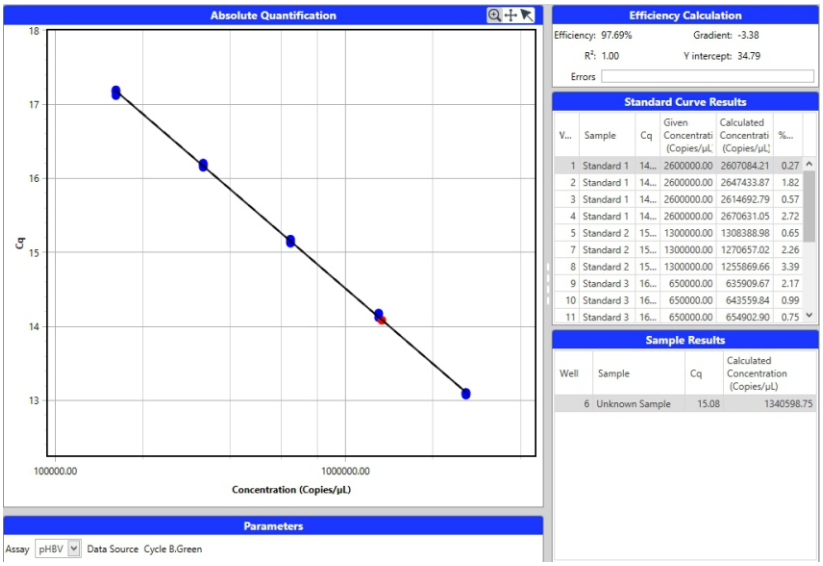
Designed to meet MIQE specifications, our software offers you the most up-to-date qPCR analysis. With an intuitive interface, setup and analysis is simple, while further control features give you total confidence in your data.

mic
magnetic induction cycler

GEN Genotyping

Use differentiated melt curves from various types of chemistries, including quenched FRET dual hybridization probes, beacon probes or Plexor® to characterize a sample's genotype. Melt peaks can be inverted to accommodate the different chemistry types.





AQ Absolute Quantification

Using a standard curve, AQ allows you to determine the absolute amount of a genetic target. This five point, two fold dilution series produced an efficiency of 98%. The percentage variation between the given and calculated concentration was no greater than 5% allowing for accurate quantification of the unknown sample.



Specifications







Electrical	AC Input	100 - 240 VAC, 50/60 Hz
Thermal Performance	Temperature Accuracy	± 0.25°C
	Temperature Uniformity	± 0.05°C
	Ramp Rates	Heating: 4°C/s Cooling: 3°C/s
Optical	Detectors	Photodiode per channel
	Excitation Sources	High energy light emitting diode per channel
	Channels	Green: Ex. 465 nm; Em. 510 nm Yellow: Ex. 540 nm; Em. 570 nm Orange: Ex. 585 nm; Em. 618 nm Red: Ex. 635 nm; Em. 675 nm
	Acquisition Time	1s
Reaction Vessels	Samples per Instrument	48
	Reaction Volume Range	10 - 25 µL
Operating Environment	Temperature	18 - 35°C
	Relative Humidity	20 - 80%

Designed and manufactured in Australia by

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