



“miniPCR results are identical to those of our \$8,000 high-end thermal cycler.”

Diego Buenaventura, Ph.D. Candidate, City College of New York

miniPCR™: Increasing Productivity in the Research Lab

Diego Buenaventura is used to working at the cutting edge. As a PhD student in Dr. Mark Emerson’s lab at the City College of New York, he spent a large portion of his day in front of the lab’s thermal cycler, studying the development of photoreceptors in the eye through molecular cloning-based techniques. There was a high-powered, high-end machine, and Buenaventura hadn’t imagined that they’d need anything else.

In the then-startup lab’s early days, it seemed as though he were right. But as the number of researchers working under Emerson increased over time, so did the number of cloning procedures they needed to perform. Before long, lines were forming to use the lab’s one PCR machine—all too frequently occupied at far less than its 96-well capacity—and it became clear that the lab needed another machine. At thousands of dollars per device, however, it was a cost that the small, still-growing lab preferred to avoid. So when Emerson learned that a grad school colleague at the biotech startup Amplyus had built the miniPCR, a portable, low-cost thermal cycler, he gladly signed on as a beta user with nothing to lose.



When the miniPCR first appeared in the Emerson lab, it seemed almost toy-like at less than a fifth of the size and a tenth of the price of its traditional counterpart. It was hard to imagine that the little device would be capable of replicating DNA with the same accuracy and efficiency as a machine from a major biotech supplier—but it almost instantly set about proving its worth. Lab members began by using the miniPCR in parallel with the traditional PCR machine to increase productivity and soon found that the former worked just as well as the latter: Buenaventura in fact directly compared the two after an undergraduate in the lab had trouble with both systems and found that they produced identical results. As time passed, lab members began to praise the compact machine for its portability, its easy-to-use software, and even its “cuteness.”

But the real test of the miniPCR’s ability came the day that Emerson told Buenaventura that the lab would be moving to another building—a time-consuming process that would require a dedicated company to move large lab equipment, including the bench-top thermal cycler, to the new location. Buenaventura knew that research would almost certainly be interrupted while waiting for everything to arrive—until he realized it didn’t have to be. The miniPCR, small enough to fit into a backpack, would not need to be shipped; it could simply be carried to the new location. Within hours of arrival, before the larger PCR machine had arrived, Buenaventura had already set up the miniPCR and was running assays as though he had never moved in the first place.

To learn more please visit our website www.minipcr.com or email us: team@minipcr.com

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Today Buenaventura is an enthusiastic proponent of the miniPCR, which has taken a proud role next to the bench-top thermal cycler as a key component of the Emerson lab. The two devices work side by side in much the same capacity, dramatically increasing lab productivity—and what's more, the lab members have the security of knowing that were anything to happen to their traditional machine, the miniPCR has their back. "If our thermal cycler were to break down tomorrow," Buenaventura says, "we could definitely get by with just the miniPCR."

– Victoria Lin

About miniPCR™

miniPCR™ is a groundbreaking miniaturized thermal cycler offering professional PCR performance for a fraction of the price.

- **Powerful:** miniPCR thermal cyclers deliver the same high-end performance as benchtop PCR platforms.
- **Convenient:** Unique software interface allows users to program and monitor their PCR experiments from their own smartphones, tablets, or laptops.
- **Versatile:** PCR and heat block always at your fingertips, right on your bench.
- **Compatible:** Fully interchangeable with standard PCR tubes and reagents, ready to run your existing PCR assays.



| Feature | Specification |
|-----------------------------------|---|
| Sample format | 8 x 0.2ml PCR tubes (strip compatible) |
| Max heating ramp rate | 3.2°C / sec |
| Heated lid | Independent lid heater up to 120°C with PID control |
| Max cooling ramp rate | 2.2°C / sec |
| Program sharing and backup | Unlimited libraries, .pdf file format |
| Temperature control | Resistive heating; forced air cooling |
| Control system | Embedded thermistors and PID algorithm |
| Temperature range | 20°C – 99°C |
| Operating range | 9°C to 40°C ambient temp. |
| Dimensions | 2" x 5" x 4" |
| Power supply | AC 100-240V, 50-60hz, 70W |
| Battery operation | 4h – 6h uninterrupted run time on Li-Ion battery |

miniPCR is based at the Harvard Launch Lab, an incubator for innovative companies run by Harvard University alumni based in Boston, Massachusetts.

The miniPCR team of molecular biologists, engineers, and designers is dedicated to miniPCR's mission of making science accessible to everyone, everywhere.