Next Generation Thermal Cycler for Use in Polymerase Chain Reaction (PCR) Systems.

Abstract

The thermal cycler is designed to be versatile, small, fast, robust, low power and low cost. It is suitable for either flow systems or sequestered samples, accommodating volumes from several microliters to several hundred microliters, with excellent temperature uniformity throughout the sample. Cycling speed is inherently fast due to small size and efficient heat transfer, with the cooling rate being driven by air flow.

The system is highly modular, allowing a wide choice of packaging options, including arrays of cycling chambers. Real-time optical detection is also an option, depending on the needs and application of the particular PCR system involved. The design also makes full use of off-the-shelf components and existing fabrication technologies to provide a low cost advantage at both the component and manufacturing levels.

Patents:

US patent pending

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UCRL-MI-124572