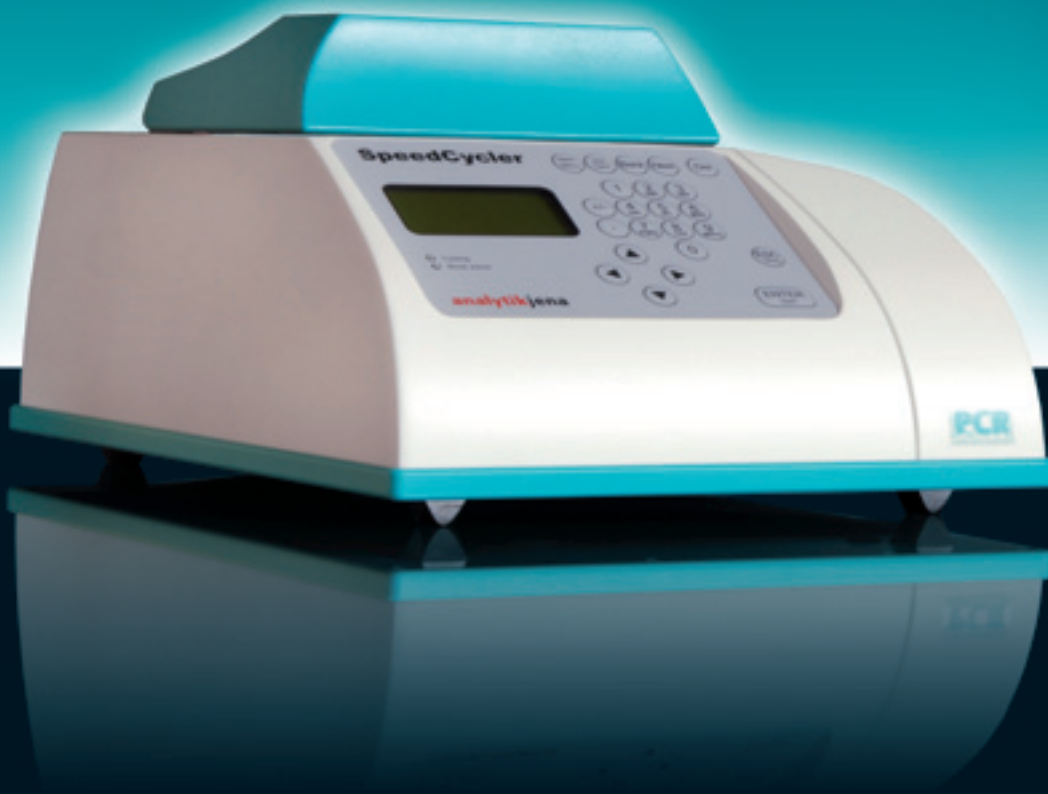


# SpeedCycler

- RapidPCR in less than 8 minutes
- Reliable and reproducible
- More specific amplification products



# Genuine rapidPCR | without Chemical Additives

## High performance thermal cycler sets new standards

With the SpeedCycler, Analytik Jena has completely redefined the standard for speed, reliability and quality of thermal cyclers. True heating and cooling rates of 12° C/s and 8° C/s, respectively, are realized.

Patented, ultrathin-walled microplates based on the SBS standard footprint contribute to a never before achieved thermal efficiency. Through SAC (Self Adapting Container) technology, the thermoelastic walls of the sample container adapt to the shape of the sample block like a second skin and thus, ensure rapid heat transfer into the samples. An unsurpassed thermal efficiency of over 90 percent is achieved.

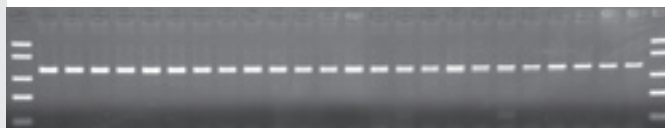
Through this innovative technology, applications using so-called "touch and go" protocols can be performed in exceptionally short times. PCR programs can be carried out in even less than 8 minutes.

The SpeedCycler has been optimized for very low sample consumption and the use of inexpensive standard PCR reagents. The use of costly and often limiting chemical additives was consciously avoided.

- rapidPCR with heating and cooling rates of 12° C/s and 8° C/s, respectively
- Rapid heat transfer through SAC technology
- Optimized for low reagent consumption
- Change thermal blocks without tools in seconds

## rapidPCR in less than 8 minutes

A two-step "touch and go" PCR protocol with 25 cycles was performed. Parameters: Initial denaturation of 30 sec at 96° C followed by 25 cycles with denaturation of 0 sec at 95° C and annealing/elongation of 0 sec at 60° C. Samples were pipetted into the 96-well microplate in a checkered pattern (every other row and column). Markers are 1500, 850, 400, 200 and 50 bp long. The absence of edge effects is an the outstanding heating uniformity throughout the sample block.



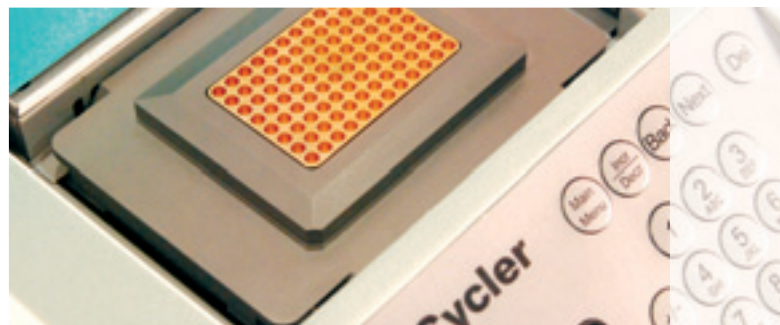
▲ Ultrarapid amplification of a 536 bp  $\beta$ -globin fragment from human genomic DNA: outstanding uniformity in less than 8 minutes

## Excellent Results

In addition to the duration of the PCR program, quality and yield are decisive criteria. These, among other factors, are dependent on the correctness of the set temperature as well as the accuracy of the temperature control. Employing the latest generation of high-performance peltier elements completely prevents the occurrence of temperature inaccuracies within the sample blocks of conventional peltier thermal cyclers and results in outstanding temperature homogeneity throughout the block.

Primer mismatching during annealing is effectively prevented through the combination of extremely rapid temperature ramp rates and optimal temperature control accuracy. This, in turn, results in more specific amplification products.

- Higher quality results
- Reduced primer mismatching
- More specific amplification products
- Exceptional temperature homogeneity – no edge effects



▲ Exchange sample blocks in seconds: 24, 36 and 96-well sample blocks available

## User Friendly Operation

The thermal cycler offers user-friendly features such as programming ease and a heated sliding lid that automatically presses onto the microplate. Sample loss and condensation are effectively prevented through the enormous high lid contact pressure, even for volumes as small as 1  $\mu$ l.

- Heated sliding lid for maximum operation convenience
- The lid is automatically pressed onto the sample container
- No sample losses
- 24, 36 and 96-well block formats
- Ultrathin-walled, patented microplates and strips