



Advanced Oncological Diagnostics Precise and Efficient Personalized Medicine

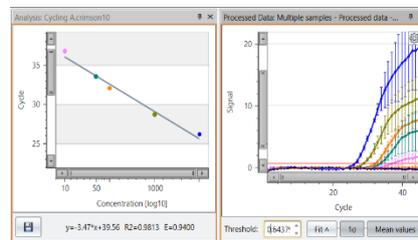
Multiplex real-time PCRs, highly integrated microfluidics and scalable cartridge manufacturing in combination with software supported assay design and data analysis deliver powerful tools for cancer monitoring, in this case acute lymphoblastic leukemia (ALL).

Features

- Precise target DNA quantification using multiplex Mediator Probe PCRs
- Intuitive design software simplifies personalized assay development for ALL specific gene rearrangements, deletions and insertions
- Sensitivities down to one cancer cell in a background of 100,000 healthy cells (10^{-5})
- Automation of qPCR standard curve generation and analysis with a linearity of $R^2 \geq 99.81\%$
- Scalable manufacturing technology with in-house capacity of up to 50,000 cartridges per year

Easy Assay Design

Intuitive assay design software (here AssayManager Beta-Version, GNWI mbH) guides the user during personalized multiplex Mediator Probe PCR design.



Multiplexed Reaction

Multiplex real-time PCRs and specialized analysis software (ValidScale) can improve monitoring, save patient sample material and allows comprehensive multi-target cancer monitoring.

Automated qPCR

A centrifugal microfluidic automation of complex liquid handling steps, such as dilutions for standard curve generation in qPCR, avoids critical user influence on analytical results.



Controlled Manufacturing

A quality controlled clean room manufacturing environment guarantees reliable microfluidic cartridges for clinical validation.

References:

- Jülg et al.: The MRD disk: automated minimal residual disease monitoring by highly sensitive centrifugal microfluidic multiplex qPCR. Lab on a Chip (2021), DOI: 10.1039/D0LC00945H
- Kipf et al.: Advanced minimal residual disease monitoring for acute lymphoblastic leukemia with multiplex mediator probe PCR. The Journal of Molecular Diagnostics (2021), *In Press*

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