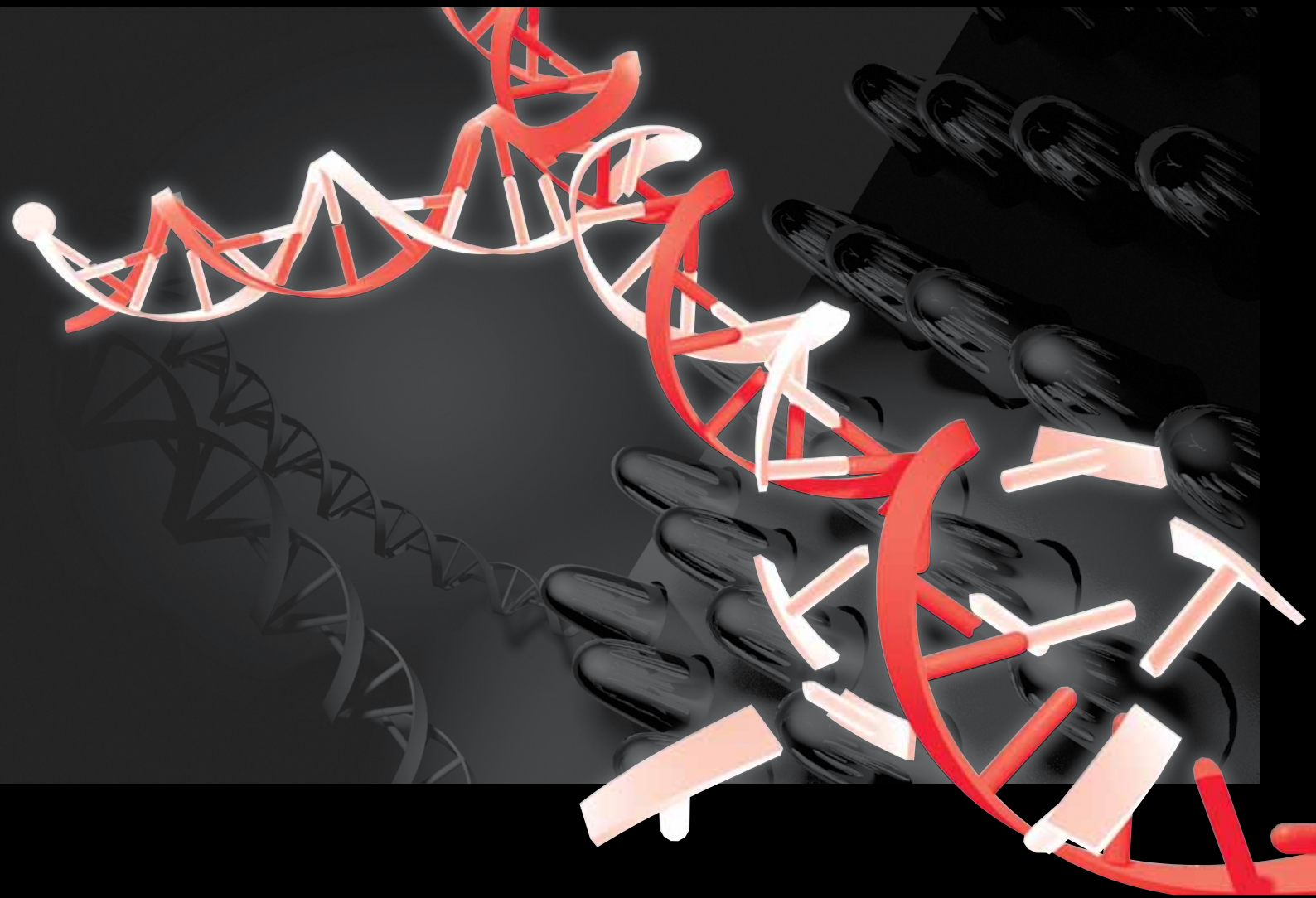


Life Science Product Guide

Kits and Reagents
Nucleic Acid Extraction
Molecular Diagnostics
Mobile Diagnostics
Instruments
Consumables/Accessories



Nucleic acid isolation kits

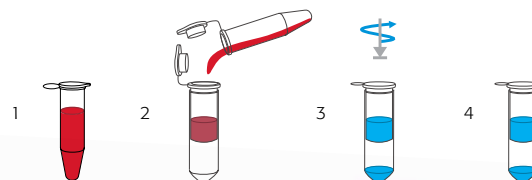
PATENTED EXTRACTION CHEMISTRY
TECHNOLOGY MADE IN GERMANY

- Products for in-vitro diagnostics (CE-IVD marked)
- Genomic DNA
- Total and micro RNA
- Viral and bacterial nucleic acids
- Plasmid DNA
- Cleanup products for PCR reactions and agarose gels
- Forensic applications
- Custom made products

Analytik Jena offers an extraordinary wide range of purification and isolation kits for nucleic acids, all made in Germany. Those are based on own technologies and patents. It ranges from manual to automated solutions for DNA/RNA extraction of most starting materials. Therefore the isolation procedure combines a very fast lysis step with a high efficient binding of the nucleic acids either to mini and MIDI Spin Filters or to magnetic particles. All methods are optimized to accordant type of starting material with different amounts and result in elution of high quality DNA and/or RNA.

Procedure:

1. Lyse the starting material
2. Bind the nucleic acids to the Spin Filter
3. Wash the bound nucleic acids
4. Elute the nucleic acids

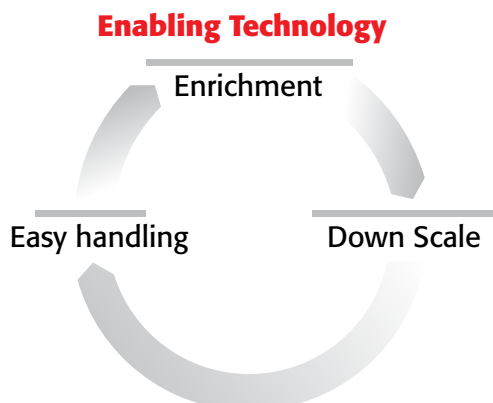


Epigenetics

The epigenetics product line is characterized by a number of outstanding and unique technologies that open new fields of application. Intelligent, easy-to-use kits allow convenient handling with minimum expenditure of time and ideal performance. Enrichment routines for low concentrated nucleic acids are available as well as optimized products for bisulfite conversion.

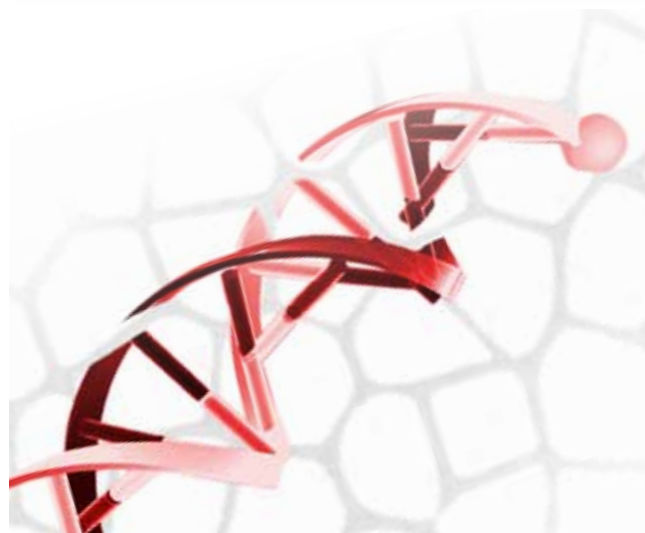
Enrichment

- **LOOXSTER®** Technology for enrichment of bacterial or fungal DNA
- **PME:** Polymer mediated enrichment for extraction of free circulating DNA
- Extremely easy-to-handle and time-saving: whole procedure in down to 30 min
- Improvement of performance and sensitivity of downstream protocols



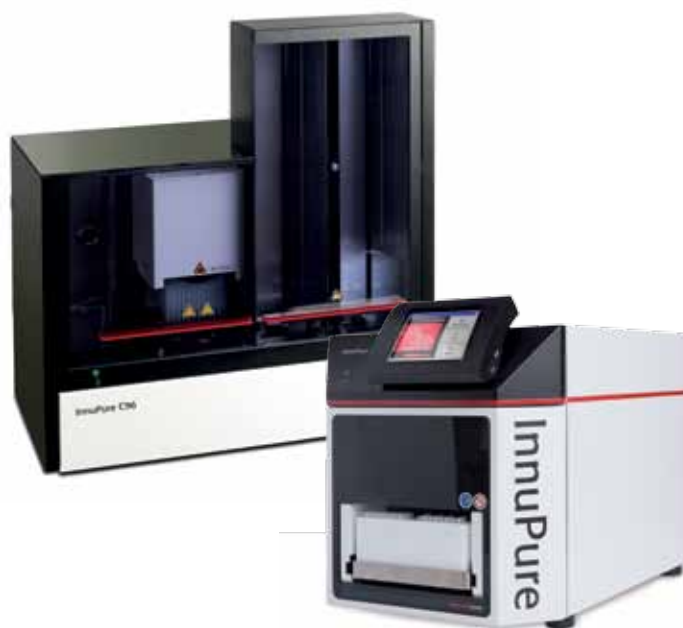
Bisulfite conversion

- **innuCONVERT** Kits for completely conversion of unmethylated cytosine to uracil in just 45 min
- Denaturation and conversion reaction combined in a single reaction vessel
- Liquid reagents for simple storage at room temperature



InnuPure® C16 and InnuPure® C96

The InnuPure® devices are flexible and efficient extraction systems for fully automated isolation and purification of nucleic acids. The instruments, which were developed and manufactured in Germany, can process a wide range of different starting materials and amounts. Both are founded on a unique liquid handling method and the proven principles of purification based on magnetic particles. Labor-intensive sample lysis steps are no longer necessary, as they are now incorporated into the automated extraction process in keeping with the starting material. The nucleic acids to be isolated are then adsorbed onto magnetic or paramagnetic particles whose surfaces have been specially adapted for this purpose. The required extraction chemistry has been optimized for the application at hand, allowing users to isolate high yields of very pure nucleic acids.



- Fully automated nucleic acid extraction
- Based on proven magnetic particle separation
- Flexible and efficient for varying starting materials and volumes
- Pre-programmed extraction protocols for optimal reproducibility
- Automatic transfer of eluates into separate elution vessels for direct storage
- Fast, reliable and efficient without cross-contamination
- Optional available: UV lamp for easy decontamination of sample room
- Tight desktop devices for any lab bench
- Ready-to-use purification kits for easy handling
- Extraction of high quality nucleic acids
- Pre-filled, sealed reagent plastic for minimum hands on time
- Optimized lysis and efficient removal of residual ethanol due to heated position
- Adjustable elution volumes
- No carryover of magnetic beads

	InnuPure® C16	InnuPure® C96
Tip volume	1000 µl	1000 µl
Number of samples	Up to sixteen samples in parallel and single sample handling	Preparation of up to 96 samples in parallel
Reagents	Pre-filled Reagent Plates or Strips are pierced by device	Pre-filled Reagent Plates are pierced by using a piercing tool
Plastic transfer	Sample Tray is moved automatically	Four function positions in the device and linear, moveable two position wagon
Device operation	Easy and convenient to use thanks to the portable HID-Pro 320 user interface	PC control software Also usable as liquid handling station

Kits for automated nucleic acid isolation

- Optimized to magnetic particle based isolation of nucleic acids
- Including all needed reagents and plastic ware for direct extraction
- Minimal hands-on time required

For the InnuPure® systems a variety of different nucleic acid extraction kits are available. Based on the proven separation of nucleic acids bound to magnetic particles, excellent results with high purity and yield are guaranteed. This ensures the final product to be free of proteins,

nucleases and other contaminants and to be used immediately for subsequent applications. Both instruments make sure that time is saved significantly and manual interventions are reduced to an absolute minimum. The extraction automats operate all pipetting and mixing steps including in the routine.



SpeedMill PLUS | Powerful and high efficient homogenizer



- Complete and reproducible homogenization
- Efficient sample cooling during the whole preparation
- Touch control panel and large display provide considerable operating convenience
- Pre-programmed protocols or user-defined programming with freely selectable parameters
- Compact construction and comparatively quiet operation
- Can easily be operated continuously
- Wide product range of Lysis Tubes allow individual upgrade of the system

SpeedMill PLUS is the perfect homogenizer for various starting materials. Through the patented process, the substantial sample warming that occurs with other homogenizers is prevented. So the instrument can be operated continuously. For the novel sample holder different temperature ratings for efficient sample cooling are freely selectable due to the storage down to -80°C . The often problematic handling of liquid nitrogen or dry ice is thus a thing of the past. Additionally the SpeedMill PLUS convinces through intuitive handling by modern touch sensors and the extra large display. Linear or cyclic protocols can be freely programmed and saved. SpeedMill PLUS is a small and smart tabletop device for fast preparation of up to 20 samples.

Kits and Lysis Tubes for homogenizers

- Optimal for mechanical disruption of different types of starting materials
- Flexible Lysis Tubes due to variable material and size of beads (e.g. glass, ceramic, circonia, steel...)
- Fast and efficient preparation of resistant samples for isolation of nucleic acids or proteins
- Optimized ready-to-use kits for direct extraction of DNA or RNA
- Easy-to-use homogenization concept for new samples available

All **innuSPEED Kits** are optimally adapted for sample processing using homogenizers (e.g. SpeedMill PLUS or SpeedMill P12) and hence, permit extremely rapid and very efficient nucleic acid isolation from various starting materials. These kits contain special Lysis Tubes with application specific beads, which are used for mechanical disruption of the sample, as well as for proteolytic lysis. Following the DNA or RNA is bound to a Spin Filter membrane, washed and finally eluted. Both the yield and quality of the isolated nucleic acids are excellent. The different innuSPEED Lysis Tubes are additionally available as single tubes for direct application using all common standard homogenizers. Those Lysis Tubes are all 0.5 or 2.0 ml screwed-cap vessels containing beads, which are different in size, grade of hardness and properties of material.

Generally it is essential: the smaller the sample, the smaller the bead.

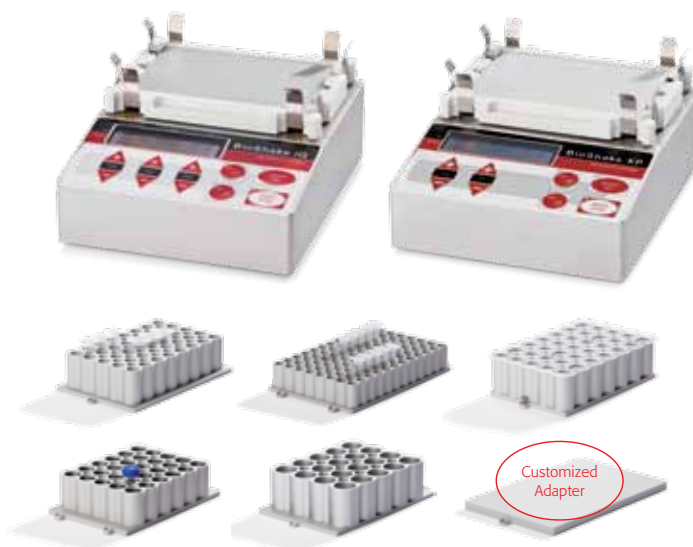


BioShake series | High-Speed mixer and thermal mixer

- Fast shaking and effective mixing of smallest samples with up to 3,000 rpm
- For microplates, PCR plates, deep well plates, tubes and glass vials
- Customized adapters available on request
- Vortex and Short-mix function
- 3D-Shake-Control: rapid and gentle mixing in orbits for sensitive samples
- Anti-Spill-Technology: controlled planar mixing
- Anti-Vibration-Technology: outstanding smooth running conditions without vibration and noise
- Compact and lightweight aluminium design

The BioShakes are ultra-fast micro mixers with patented 3D-Shake-Control and Anti-Vibration-Technology. This supports accurate control of a wide range of SBS-sized 96, 384 and 1536 well microplates, tubes and glass vials.

The BioShake XP allows for the first time very precise and efficient mixing on a microliter scale for a large range of applications. Assays in microplates or reaction tubes can be realized fast, save and automatically. Additionally the mixing speed can be adjusted from 200 up to 3,000 rpm. Using direct control keys eases up the programming



of the BioShake XP.

The BioShake iQ is the high-end thermal mixer of the BioShake series. In addition to the specifications of the BioShake XP the Bio-Shake iQ convinces by the assignment of a high precise tempering technology up to 99 °C. This guarantees constant results with minimal variations.

ScanDrop® | Nano-volume spectrophotometer



The ScanDrop® combines easy measurement of microliter volumes down to 0.3 µl with a standard measuring position for 10 mm cuvettes. The modular system is available as a single instrument for small sample volumes, as a standard 10 mm position instrument or as a combination of both. Unlike other systems, no warm up time is necessary. The

- Measurement of microliter volumes down to 0.3 µl
- 16 channels per CHIPCUVETTE® with fully automated measuring of up to 32 positions at path lengths of 0.1 and 1.0 mm, respectively
- Automated sample positioning (CHIPCUVETTE®)
- Measuring position for 10 mm standard cuvettes
- Usage of TrayCell®: single measurements of small samples at path length of 0.2 mm or 1.0 mm
- No evaporation, no cross-contamination and no carryover effects (even for recovery of samples)
- High-precision optics with aberration-corrected grating and Split-Beam-Technology

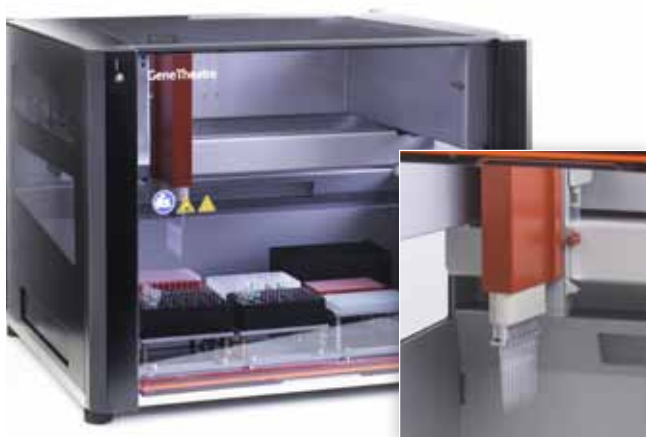
instrument is ready to use almost as soon as it is switched on thanks to a long-life xenon flash lamp.

Furthermore the Split-Beam-Technology provides high stable and reproducible measurement results. One additional highlight is the portable HID-Pro 320 user interface with a 5.7" color touchscreen, which turns the ScanDrop® into a fully functional and space-saving stand-alone system. Next to the 10 mm standard position the CHIPCUVETTE® is convenient and easy to use due to fully automatic movement. Up to 32 measurements can be performed during one run at which a double determination of one sample at two different path lengths becomes possible. This feature offers a matchless advantage especially if sample concentrations are unknown.

GeneTheatre | Automated pipetting routines: simple and fast

CyBio

PRODUCT LINE



- Universal & flexible liquid handling desktop system
- Modern servomotors provide fast and quiet operation
- Highly consistent and reproducible results
- Free definable sample configuration within 96 well, 384 well or 1536 well microplates, other grids applicable as well
- Pipetting, dispensing and mixing functions
- Closed, robust plexiglass housing with a front door for easy cleaning
- Piercing function
- Intelligent waste box system
- Soft Touch Adapter ensures trouble free and precise dry pipetting

The use of Analytik Jena's GeneTheatre greatly simplifies all pending pipetting and dispensing tasks in a laboratory and allows for full automation. In addition to microplate handling, these highly flexible workstation also accommodates the use of strips, single vessels and glass slides. Users may choose from any of 12 desk positions in the standard format 96 well SBS, making it easy to adjust the systems to any conceivable application.

	Application data
Volume range	0.5 µl up to 1000 µl
Pipettes	Interchangeable with 1 or 8 channels respectively
Desk positions	12 freely selectable positions in 96 well SBS standard-format
Max. tube height	Up to 10 cm
Specials	▪ Users may select from different waste box systems for used tips ▪ Integrated UV lamp provides ideal protection from contamination ▪ Accommodates use of external equipment, such as mixers, thermal mixers or vacuum chambers
Examples of application	▪ Preparing whole PCR and real-time PCR batches ▪ Reformatting microplates in the 96, 384 and 1536 format ▪ Dispensing or distributing reagents ▪ Running microarray applications with freely selectable spot layouts and dots (starting at 0.5 µl) ▪ Performing mother-daughter plate transfers and single-tube transfers (0.2 – 2.0 ml) ▪ Dilution series and sample pooling

CyBi®- SELMA | Semi-automated pipetting system

CyBio

PRODUCT LINE



- Semi-automatic 96- or 384-channel instrument with a minimal footprint
- Available in various volume ranges from 0.5 µl up to 1000 µl
- TipTray technology: Proven, patented tip sealing concept makes changing tips easy and secure
- Touchscreen for easy, intuitive operation
- External equipment such as mixers, heating and cooling adapters, vacuum chambers, etc. can be used
- Error-free, reproducible results with 96 or 384 parallel working pistons with automatic positioning to different heights
- Two working positions for microplates and reservoirs

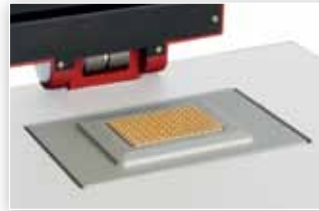
Constantly moving your thumbs up and down to pipette solutions is the defining feature of day-to-day lab work - along with arm and joint pain. The SELMA 96/384 are semi-automated pipetting systems, which process liquid handling steps fast, precise and with a high reproducibility. Equipped with 96 or 384 tips working in parallel, 96

and 384 well microplates can be filled in the twinkling of an eye. Making painful tendonitis a thing of the past. All movements and processes, which are important for high precision as well as for reproducibility, are achieved by reliable motors. This ensures always excellent and constant results.

SpeedCycler² | Ultra high-performance thermal cycler

- Modern thermal cycler for rapidPCR
- Ramping rates of up to 15 °C/sec, adjustable in steps of 0.1 °C/sec
- SAC (Self-Adapting-Container) technology delivers outstanding heat transfer
- Low-Profile-Rapid (LPR) blocks for fastest ramping and lowest dead volume
- Standard-Profile-Rapid (SPR) blocks for 0.2 ml standard consumables
- Optimized for low reagent consumption and reduced running costs
- Controlled by PC or portable user interface HID-Pro 320
- Thermal blocks made of massive sterling silver with a gold layer

Fastest on the market! The SpeedCycler² combines flexibility and speed for a real *rapid*PCR. Three different models are available for best adaption to the accordant application. True heating and cooling rates of up to 15 °C/sec and up to 10 °C/sec, respectively, are realized. A smaller footprint, the modular design, the external control panel and, last but not least, ultra high-performance distinguishes the SpeedCycler² from other available instruments.



FlexCycler² | Adapts to your requirements



- Intuitive operation and extra-large VGA display for easiest programming
- Quick-X-Change of thermal blocks with automatic block detection
- Mono and Twin Blocks available with and w/o gradient feature
- LGT - Linear Gradient Tool: new and comfortable programming concept
- Twin blocks are controlled independently
- High Performance Smart Lid (HPSL) for always optimal pressure
- Excellent temperature homogeneity of up to ± 0.1 °C
- Very low power consumption (max. 600 W) and noise emission
- GLP compliant documentation of PCR runs
- USB A and USB B ports for easy data exchange and PC control respectively

FlexCycler² – the flexibility is the unique selling proposition of this thermal cycler. With its choice of Mono or Twin Blocks and the optional gradient function, it's perfect for any kind of PCR application. Block exchange is a matter of seconds without any tool needed. The thermal blocks are made of an aluminium alloy that optimizes energy transfer and contains High Performance Smart Lids (HPSL), which ensure a constant contact pressure independent of used plastics.

To meet each individual requirement, contact pressure and temperature of the lids are adjustable. In addition, the twin blocks make it possible to control both block sides independently. The unit utilizes state-of-the-art ramping rates and high temperature accuracy. Its extra-large VGA display, user-friendly interface and comprehensive software functions make operations easy to understand.

qTOWER | Quantitative real-time *rapid*PCR



The real-time thermal cycler qTOWER sets new standards for speed on the qPCR market. Based on the established *rapid*PCR, the qTOWER is up to 10 times faster than commonly available systems, achieving heating rates of up to 12 °C/sec and cooling rates of up to 8 °C/sec. Complete quantitative PCR runs can be performed in less than 25 min.

- High speed, real-time PCR up to 10times faster than conventional qPCR cyclers
- Patented fibre-optic system achieves high signal intensities
- Enormous cost reduction – works with reaction volumes down to 5 µl
- Ideal ratio amongst reaction volume and dead-space above minimizes water evaporation to a new level
- Highly energy efficient and RoHS compliant
- Integrated, user-friendly control and analysis software with absolute and relative quantification, delta-delta ct method, allele discrimination and PCR efficiency and a lot more
- Attractive high-gloss design

The significant reduction of reaction volumes (down to 5 µl) is yet another highlight, as is the exceptional savings (up to 75 %) of expensive real-time reagents. Consumables have been optimized, making batches up to 20 µl possible and completely matching comparable instruments with its maximum capacity of 96 samples. The patented fibre-optic system at the heart of qTOWER guarantees detection of homogenous fluorescence signals across the whole microplate. The qTOWER can be equipped with up to four different measuring channels, which makes the device very flexible and adaptable for various applications. Therefore user can choose from 11 high-resolution Color, FRET & Protein modules.

qTOWER³ and qTOWER³ touch | Get in *touch* with high-class qPCR

- Patented fiber-optic system for ideal illumination and excitation of all 96 probes without edge effects
- Minimal scan times of 6 seconds for up to 6-fold multiplexing
- Optional filter configuration of 12 high-resolution, retrofittable color or FRET modules
- Novel light source containing 4 long-life LEDs
- Standalone operation via integrated tablet control (10") and/or comprehensive PC control
- Intuitive, multilingual control and evaluation software

Vision, Amazement, Simplicity: the new qTOWER³ real-time PCR thermal cycler from Analytik Jena. The patented fiber optic shuttle system with unique light source powered by 4 high-performance LED's guarantees ideal excitation and detection of known fluorescent dyes up to the dark red. In addition, the system's highly sensitive detection module can be equipped with up to 6 different color modules. Color modules are upgradeable, allowing the system to benefit from future Analytik Jena developments. And, enjoy peace of mind knowing that the qTOWER³'s optical components are backed by an industry-leading 10-year warranty. Silver block technology is at the heart of the qTOWER³, offering outstanding control accuracy of only ± 0.1 °C over the entire 96 well block.



high end optical components
* 10 Years *
long-term warranty



PCR UV Cabinets and Workstations | Ideal for your sample preparation



- Up to three built-in shortwave (254 nm) UV tubes for decontamination between experiments
- Timer sets UV exposure up to 12 h
- Safety shut-off switch automatically turns the UV light off when door is opened
- Keylock prevents accidental exposure of samples to UV
- Unique, easy-clean antimicrobial coating on the stainless steel and aluminum surfaces
- Hinged door flips up for easy access to the work area
- Built-in power outlets for operation of equipment inside the work area
- Two shelves allow placement of small equipment
- Makrolon® panels block UV below 400 nm
- With or without three-stage HEPA filter
- Different sizes: Cabinet or Workstation to meet each individual need

Analytik Jena offers a complete line of PCR UV hoods, which use shortwave ultraviolet to control unwanted transfers of nucleic acids. The systems bring together UV irradiation, antimicrobial-coated stainless steel and aluminum to create a dual-attack environment against PCR contamination.

In addition to standard PCR UV² models, PCR UV³ HEPA systems with integrated three-stage filters are available. The equipment provides efficient use of lab space for placement of large instruments on the work area or small items on the removable shelves. Overhead white light brightly illuminates the work area.

Two styles are available:

The standard PCR UV and the PCR UV HEPA systems.

Two sizes are available:

The cabinet features a smaller work area than the workstation.

Makrolon® is a registered trademark of Bayer AG



MobiLab | Your Lab to go

- All in one analysis platform
- Combines nucleic acid extraction, thermal mixer, rapidPCR thermal cycler and detection unit
- Robust casing and up-to-date touchpad are optimized for outdoor use and allow easy cleaning and disinfection of the device
- Indoor use on a surface of a sheet of DIN A4 paper possible as well to replace an entire laboratory
- 4-line display provides user-friendly application wizard
- Ready-to-use kits for simplest handling
- Including battery pack for real mobile analysis

MobiLab for pathogen detection on-site: Simple, robust and mobile are the key words for the entire design concept. The device combines a fully equipped laboratory, including nucleic acid extraction, high-speed thermal mixer, PCR thermal cycler and detection in a suitcase. Based on the *rapidPCR* technology complete pathogen diagnostics are realized in just one hour. Consequently the MobiLab is unique in terms of flexibility and also in relation to the speed in which the results are achieved.

Special plus: It already enables even persons with a non biological background to work on molecular diagnostic questions.



Kits for MobiLab



Developed for performing mobile, on-site testings, all MobiLab assays give users a fast, highly specific tool for human diagnostics, for detecting food pathogens and for environmental analysis. This easy-to-use kits completely eliminates the need not only for additional equipment and consumables, but also for quantitative pipetting. The kits contain nucleic acid extraction reagents and all PCR components in a preformulated, stable form. Also included are novel reaction cartridges in which the entire amplification/hybridization and detection processes occur. Final detection is highly sensitive and takes place on a test strip within the reaction cartridge. Because whole process is performed in a closed system, operator error and contamination during the testing can be reduced to an absolute minimum.

- Quick and easy on-site detection
- All inclusive: DNA extraction, amplification/hybridization and final detection on a lateral flow strip (LFS)
- Highly specific and sensitive detection
- Ready-to-use assays with optimized, wizard-based protocol and step-by-step instructions on MobiLab



Reaction cartridge left:

one band (control line) = the sample tested negative

Reaction cartridge right:

two bands (control and test lines) = the sample tested positive

ePaTOX II | Fast, sensitive, chip-based detection of toxins and pathogens



The ePaTOX II is a versatile instrument for highly sensitive, chip-based detection of proteins, toxins, nucleic acids and other biomolecules in a wide range of samples. Suitable for the use within laboratories, this device can also be implemented in on-field applications.

- Rapid, specific and sensitive identification and quantification of diverse biomolecules
- Multiplex analysis in human diagnostics, veterinary medicine, food quality control or environmental analysis
- Fully automated electrical detection on microarrays
- Safe plug & play operation using disposable Chipsticks
- User-friendly control & analysis software

The test principle is based on the simultaneous analysis of multiple electrode positions underlying an array-based, electrical biochip. For detection to occur, the target molecules must bind to specific receptor molecules immobilized on the chip according to virtually any customized application.

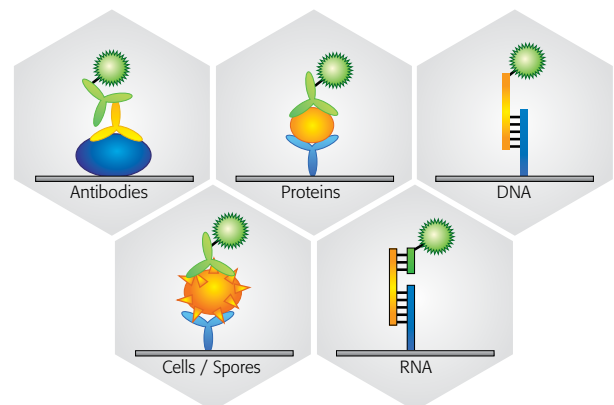
ePaTOX II is particularly easy to use: it is fully automated, equipped with user-friendly software providing all necessary sample-to-result instructions, controlling the analytical process and analyzing the test result. All required assay reagents are provided in ready-to-use-kits guaranteeing minimal hands-on-times and run durations of 10 to 20 minutes.

Kits for ePaTOX II



The ePaTOX Kits offers extensive, group-specific detection options for toxins (e.g. ricin, staphylococcus enterotoxin B and botulinum toxin A, B and E) and can be used to analyse pathogens after appropriate DNA extraction and PCR (e.g. *Bacillus anthracis*, *Yersinia pestis*, *Francisella tularensis* and Orthopoxvirus). One special feature is the high tolerance to a variety of different sample matrices such as: water, milk, starch, flour, juice, soil and aerosols.

- Ready-to-use kits for time-saving operation
- In-house development of monoclonal antibodies and oligonucleotides for capture and detection possible
- Detection time < 20 minutes
- Establishment of customized application according to special needs



Are you looking for a smart way of detecting certain biomolecules? Working hand in hand with Analytik Jena's high experienced specialists for molecular and protein diagnostics, Analytik Jena is able to generate your customized ready-to-use kit for that versatile ePaTOX II platform.

GelStudio SA² | Advanced stand-alone imaging system with touch screen

- Compact, light-tight darkroom, ideal for multiple users and numerous applications
- Touch Screen interface
- Additional software functions including saturation warning, auto adjustment of the image histogram, selection of lighting and filters, user preferences window and multi-lingual software

The GelStudio SA² imaging system comes with a powerful integrated tablet with 15.6 inch touch screen and a touch-based software interface for an easy-to-use plug and play operation. A scientific-grade monochrome camera with motorized zoom lens provides for high-resolution images with 5.0 MP and 12 bit data depth.

The image capture functions are presented in a straightforward and efficient workflow format. Users can easily capture images and save to a flash drive or by W-Lan in a network. A USB port is located on the side of the cabinet for saving images. A powerful analysis software for installation on a separate computer is included. For high-resolution prints, a digital thermal printer is recommended.



GelTower | Simplify and maximize precast and mini gel imaging



The computer-controlled GelTower comes equipped with a digital single lens reflex camera and provides high-resolution images in color and gray scales. Simply place the gels on the transillumination plate,

- Brilliant color or grayscale publication-quality images with 17.9 MP resolution
- Illuminate nucleic acid and protein gels with interchangeable transillumination sources: white, blue, midrange and longwave UV
- Analyze results using simple workflow-focused software
- Reduces lab space requirements with its compact design – footprint is only 330 mm x 330 mm

then capture brilliant color images. The streamlined software interface guides users through the image capture process with automated pre-set capture buttons. Alternatively, individual settings can be defined for quick, personalized image capture. Analysis of gels is accomplished with the user-friendly VisionWorksLS software.

The GelTower utilizes a built-in midrange 302 nm UV transilluminator. The imaging capabilities can be maximized by adding interchangeable sample plates to view a wide range of fluorophore and colorimetric stains. The modular design enables easy placement of sample plates to illuminate precast or mini gels with sizes up to 11.5 x 16 cm.

UVsolo touch | Stand-alone gel documentation system



- Simple touch screen operation and maximum UV protection for users
- Easily change out bandpass emission filters for use of different fluorescent staining dyes using the easy-access filter drawer
- Small system footprint requires minimum bench space

monochrome camera with a high resolution of 5.0 megapixels. A highly sensitive zoom lens allows for high-contrast image acquisition. The system is controlled by a touch screen with intuitive image acquisition software.

With Live view, all exposure time, zoom and aperture setting changes are displayed in real-time on the 10 inch screen. Saturation monitoring allows for easy capture of fully quantifiable images.

Gel images are saved in universal file formats TIF, JPG or BMP on a USB storage device, the tablet computer memory or via W-LAN on a network computer. For prints, a printer with USB interface can be connected to the UVsolo.

The transilluminator

Two different sizes are available: 20 cm x 20 cm UV filter size for small and medium sized gels or 25 cm x 26 cm filter size for larger gels. UV intensity is selectable in 3 levels: Image acquisition should always be done with maximum UV intensity („High“). For excision of gels it is recommended to reduce the UV intensity to avoid damage to the samples. This can be accomplished with switch settings “Medium” and “Low”.

UVsolo touch is a compact, easy-to-use, stand-alone system for gel documentation. It is designed to acquire gel images easily and without any need for training. Thus it is ideal for multi-user laboratories and practical trainings. The UVsolo touch system includes a light-sensitive

Transilluminators | High-quality transilluminators for UV fluorescent stains

- Filter sizes from 15 cm x 15 cm up to 25 cm x 26 cm or 20 cm x 40 cm
- Superior uniform illumination
- High-grade filter glass for low background
- Compact size with small footprint saves bench space and is compatible with the gel documentation system GelStudio SA
- Robust and easy to clean stainless steel filter frame
- Freely adjustable UV protection shield for user UV protection during gel handling



Analytik Jena UV transilluminators feature a uniform, bright illumination. The exclusive application of high-grade filter glass provides excellent documentation results with low background signal. The superior illumination uniformity allows for a reliable quantification of electrophoretically separated fluorescent samples.

ChemStudio product line | Highly sensitive chemiluminescence systems

The ChemStudio product line has been designed for a wide range of imaging applications. Depending on the system configuration, applications range from simple gel documentation to advanced, multispectral and multifunctional imaging. The most significant applications include high-resolution detection of chemiluminescence, fluorescence and colorimetric samples. ChemStudio can be used to

meet countless BioImaging needs, both in the fields of proteomics as well as genomics, with VisionWorksLS software automating image acquisition and analysis. In addition to comprehensive image acquisition features, the software provides extensive detailed image analysis tools, such as 1D analysis, surface density, colony counting, plant imaging, molecular weight standards, protein quantification, quantitative analysis of PCR products, western blot densitometry, GFP expression tracking, multiplexing and more.



ChemStudio SA ²	ChemStudio	ChemStudio PLUS
- Stand-alone system with integrated tablet and 15.6" color touchscreen - Simple, intuitive software user interface - USB ports, wired and wireless networking capabilities for saving images	- Simple, standard darkroom - Cost-effective alternative to other chemiluminescence systems	- High-end darkroom for a variety of imaging applications - Motorized or manual platform lift available
5-position emission filter wheel - Fully automatic control: illumination, camera, lens and filter wheel	4-position emission filter wheel - Manually controlled illumination and filter wheel - Camera and lens controlled manually or via software	5-position emission filter wheel - Fully automatic control: illumination, camera, lens and filter wheel
- Stand-alone software: acquisition, multilingual - VisionWorksLS software: image analysis (requires external computer)	VisionWorksLS software: image acquisition and analysis	VisionWorksLS software: image acquisition and analysis

- Imager for chemiluminescence, fluorescence and colorimetry
- Upgradeable for NIR/multiplexing imaging applications
- Selection of highly sensitive, cooled CCD cameras with fixed-focal-length or zoom lenses (motorized or manual zoom)
- Light-tight darkrooms with large front door and unique UV-safe gel viewer window
- Available as either a PC-operated unit or as a stand-alone instrument with an integrated color touchscreen
- Includes Ethidium Bromide emission filter in an easily accessible filter insert with up to five positions
- Integrated overhead (EPI) white light for optimum illumination and focusing
- Chemi tray for optimum sample placement on the black, non-reflective surface

- Telescoping tray provides easy access to the UV transilluminators
- VisionWorksLS Acquisition & Analysis Software, with comprehensive features, image acquisition and analysis

Multifunctional darkrooms

All ChemStudio darkrooms are absolutely light tight and extraordinarily user friendly, with the large front door providing easy access to the instrument interior. The overhead white light supports sample positioning and focusing.

A winning combination: CCD cameras and lenses

In order to meet the requirements for recording different types of signals, a set of high-quality, cooled CCD cameras is available with a variety of lenses. When compared directly to other detection methods, cooled CCD cameras have been found to be superior in terms of sensitivity, accuracy, dynamic range, speed and ease of handling.

Accessories for system expansion

- Transilluminators
- Various standard excitation and emission filters; custom filters are available
- White light converter plates and white light LED plates
- Visi-Blue™ converter plates
- Overhead UV light modules
- Multispectral light sources

Specifications	CCD Camera 815	CCD Camera 615*	CCD Camera 515
Grayscale	65,536	65,536	65,536
Megapixels	8.1, may be expanded to 16.2	3.2, may be expanded to 9.6	2.1 with zoom lens, may be expanded to 7.4
Cooling	RT – 57 °C Peltier cooling	RT – 60 °C Peltier cooling	RT – 57 °C Peltier cooling
Lenses	42.5 mm f/0.95 25 mm f/0.95*	50 mm f/1.2 25 mm f/0.95*	12.5 – 75 mm f/1.2 zoom lens

* Only for ChemStudio PLUS

Consumables and accessories

Ranging from PCR plates in 36, 96 and 384 well format, the product portfolio not only covers the requirements of conventional and *rapid*PCR, but also includes white plates and sealing foils for optical read-out in real-time PCR. Additional single tubes are offered as well as 8 well strips.

Also high-precision tips for FasTrans, GeneTheatre and CyBi®-SELMA can be ordered. Those are available with or w/o filter in dependence on the application.

Instruments, reagents
and plastic ware –
ALL FROM ONE HAND



WE EXTEND YOUR WARRANTY.

Free extended warranty for many selected thermal cyclers to three years.

Learn more and register online: www.analytik-jena.de/productregistry



CHOOSE YOUR PLATFORM

e.g. PCR, *rapid*PCR, real-time PCR, real-time *rapid*PCR, endpoint detection, gel-electrophoresis, Lateral Flow Strip

KITS ON DEMAND

e.g. Customized solutions

ENVIRONMENTAL ANALYSIS

e.g. Mycoplasma, Listeria, Salmonella

FOOD ANALYSIS

e.g. Salmonella, Listeria, *E.coli*, Campylobacter, EHEC, Shigella Toxin II

TICK PATHOGENS

e.g. Borrelia, Rickettsia, Anaplasma, Babesia, TBE

HUMAN DIAGNOSTICS

e.g. Influenza, H1N1, H5N1, Bordetella, Pertussis, HBV, HCV, HDV, HIV-1, HCMV, EBV, PVB19, HSV, TB, MRD, multidrug resistance, tumor research

INTERNAL CONTROL

e.g. Assays for internal DNA/RNA real-time control

EXTERNAL CONTROL

e.g. Nucleic acid extraction (Food, Ticks)

POLYMERASES

e.g. Standard Taq's, Hot Start, TITAN, Speed Taq's, Long Range, RT-Enzyme

PCR BUFFERS

e.g. Ammonium, KCl, Magnesium

LOADING DYES

e.g. Bromophenolblue, Orange G

NUCLEOTIDES

e.g. Mix or Set

PCR MIXES

e.g. PCR and *rapid*PCR ready mixes, master mixes for qPCR and rapid qPCR

LADDERS

e.g. Standard or Express

Detection kits, PCR and real-time PCR reagents, polymerases and more

For conventional PCR, *rapidPCR* as well as real-time PCR and real-time *rapidPCR*, Analytik Jena offers suitable polymerases, ready-to-use master mixes or direct molecular detection kits and a lot more of typically needed reagents. We can provide you with high quality dNTP's, ladders and gel loading buffers for the final detection of PCR products by gel electrophoresis, with PCR buffers, magnesium solutions and other additives. Due to the wide variety of available analysis platforms, Analytik Jena's assays for molecular diagnostics range from simple endpoint detection till high-end real-time monitoring. Kits are available for human diagnostics, environmental and food analysis, as well as for tick pathogens.

Real-time PCR based kits for online detection

PATENTED PROBE SYSTEM
TECHNOLOGY MADE IN GERMANY

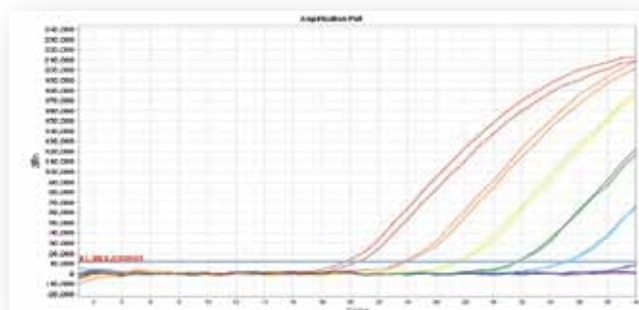


The so-called **innuDETECT** kits are ready-to-use detection assays for real-time and real-time *rapidPCR*, based on a patented probe system. The Rehybridization Probes allow a high specific quantitative and qualitative analysis of the amplification results. Due to ideal concerted components the final determination of pathogens is highly sensitive. In addition the included positive control, as well as the Primer/Probe Mix and ready-to-use Master Mix guarantee for most convenient handling.

Procedure

1. Denaturation: All DNA molecules in the sample are present in their single-stranded form.
2. Annealing/elongation: The exonuclease activity of the enzyme amplifies the target DNA and breaks down the probe.
3. Probe rehybridization: Intact probes are rehybridized and fluorescence is measured.

Example: innuDETECT dilution series based on real-time PCR using Rehybridization Probes



Sample No.	Cell/initial probe	Cell/PCR batch	Ct value 1	Ct value 2
1	10 ⁷	10 ⁵	19.76	20.6
2	10 ⁶	10 ⁴	23.98	23.81
3	10 ⁵	10 ³	27.79	27.55
4	10 ⁴	100	31.73	31.85
5	10 ³	10	35.11	35.27
6	100	1	No Ct	No Ct
7	NTC	NTC	No Ct	No Ct

PATENTED COATING PROCESS
TECHNOLOGY MADE IN GERMANY

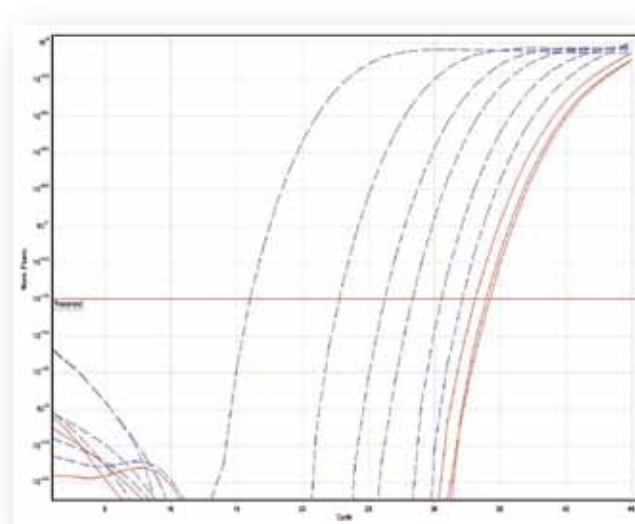


All **RoboGene**® Assays are based on TaqMan® techniques and allow a quantitative and qualitative detection of target DNA/RNA. Plastics for direct quantification and detection are coated with standards and internal control using companies own patented technology. This tubes, as well as included lyophilized reagent mixes are stable for at least two years and could be shipped at room temperature. The final results show an outstanding analytical and diagnostic specificity.

Procedure

1. Denaturation: All DNA molecules in the sample are present in their single-stranded form.
2. Annealing/elongation: The exonuclease activity of the enzyme amplifies the target DNA and breaks down the probe. The fluorescence of free reporter dye is measured.

Example: RoboGene® standards and amplification plots based on TaqMan® real-time PCR



Blue: standards 1, 3, 5 - 8, Rose: 1000 IU/ml

PCR based kits for endpoint detection

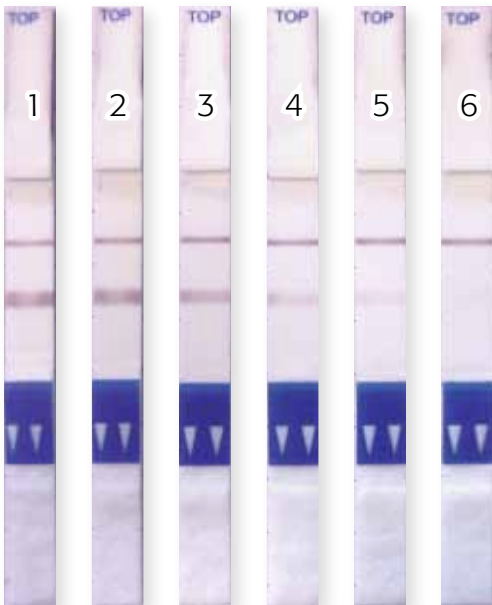


The **rapidSTRIPE** detection system is developed as a diagnostic platform for very fast, efficient and specific detection of microbial pathogens, like bacteria, protozoa or viruses. The modular structure of this system combines all steps of molecular diagnostics – isolation of DNA and/or RNA, amplification and detection of target nucleic acids. The results are visualized on user-friendly, storage stable Lateral Flow Strips, which convince by high sensitivity.

Procedure

1. Standard or *rapid*PCR with tag-marked primer
2. Hybridization with sequence-specific antigen-marked probe
3. Detection on a lateral flow strip (LFS) via an antigen-antibody interaction

Example: Dilution series on Lateral Flow Strips (LFS)



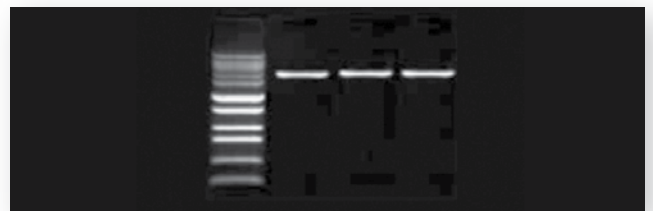
- | | |
|-------------------------|----------------------------|
| Strip 1: Undiluted | Strip 4: Dilution 1:1.000 |
| Strip 2: Dilution 1:10 | Strip 5: Dilution 1:10.000 |
| Strip 3: Dilution 1:100 | Strip 6: Negative control |

Polymerases, cDNA synthesis and master mixes



innuTaq covers a wide product range of different Taq DNA Polymerases for PCR and/or qPCR. Thereby all enzymes are delivered with optimized 10x buffers and $MgCl_2$ for best adaption to each application. Amplification speeds of up to 200 bp/sec offers the matchless advantage of fast running times.

Example: Amplification of a 5.3 kb DNA fragment

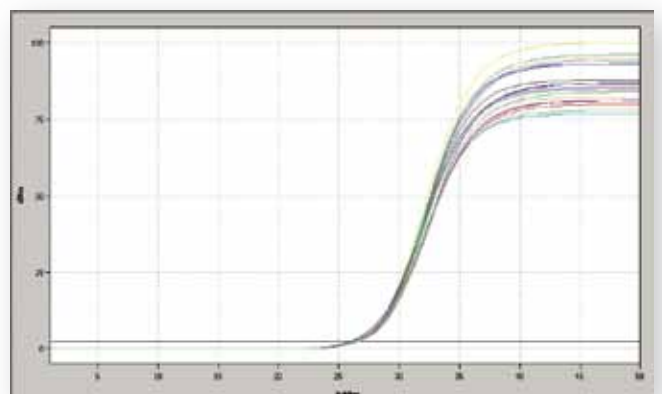


Lane 1: DNA ladder, lane 2 – 4: innuTaq

For cDNA synthesis **innuScript** reverse transcriptase is available either as single enzyme or as One Step RT PCR Kit. The products offer an advanced activity during RT-PCR and improved stability in an enlarged temperature range (42 °C up to 55 °C).

Additionally the **innuMIX** ready-to-use master mixes simplify the preparation of a PCR or real-time PCR batch enormously. All innuMIX kits are 2 times concentrated and combine a specific Taq DNA Polymerase with high quality dNTP's, an optimized buffer system and application depending additives (e.g. intercalating dyes, dyes for direct gel loading...).

Example: Amplification of a human specific gene sequence





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Subject to changes in design and scope of delivery
as well as further technical development!

