

# Modaplex

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C O M P L E X I T Y  
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D I A G N O S T I C S

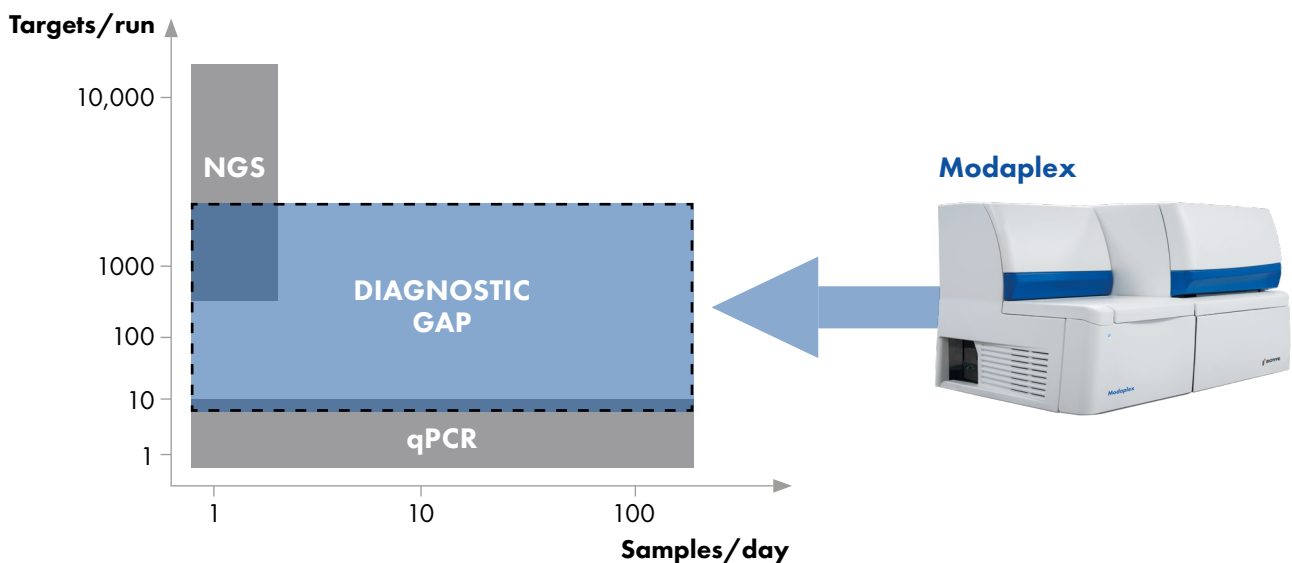
# MODAPLEX PLATFORM

## BRIDGING THE GAP BETWEEN QPCR AND NEXT-GENERATION SEQUENCING

Quantitative PCR (qPCR) has been the gold standard for the detection and quantification of genetic markers for decades. It is cost-effective, fast and sensitive, but rather unsuitable for the simultaneous quantification of large numbers of markers. Recently, next generation sequencing (NGS) has enabled the simultaneous interrogation of an almost unlimited number of markers. However, the time and money needed to analyze one sample with NGS is orders of magnitudes higher than for qPCR.

Recently, it has become apparent that the reliable diagnosis of conditions such as cancer, auto-immune disease, allergies and psychological disorders requires simultaneous quantification of a larger set of both DNA and RNA markers. With NGS, the analysis of DNA and RNA must be performed separately, which doubles the cost of sample-analysis.

Here, we present the Modaplex platform, which can provide quantitative information on 2000 RNA and DNA markers simultaneously within 3.5 hours. This unique ability, combined with a simple workflow, minimal hands-on time, and instant data analysis, allows Modaplex to bridge the gap between NGS and qPCR.



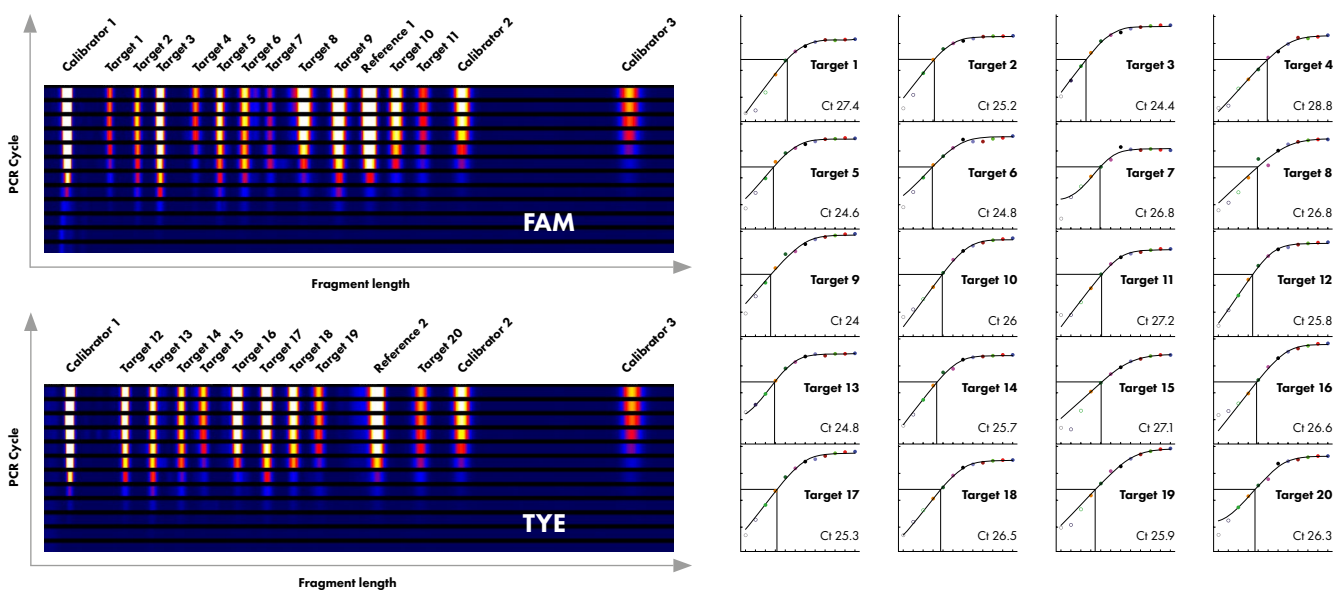
# MODAPLEX TECHNOLOGY

UNIQUE ABILITIES, PROVEN TECHNOLOGIES



Quantitative PCR (qPCR) is cost-effective, fast, and sensitive, but it is limited to the number of fluorophores that can be combined in one qPCR run. The Modaplex overcomes this limitation through the use of size separation. A standard PCR reaction is run with fluorescently-labelled primers. During PCR, amplicons are injected electro-kinetically into the capillary gel. While the PCR reaction continues undisturbed, the injected PCR products migrate through the gel in a size-dependent manner. By combining the size separation and detection after each PCR cycle, real-time data is generated, which allows for the quantification of up to 50 targets in one PCR reaction.

## UNIQUE REAL-TIME QUANTIFICATION PROCEDURE



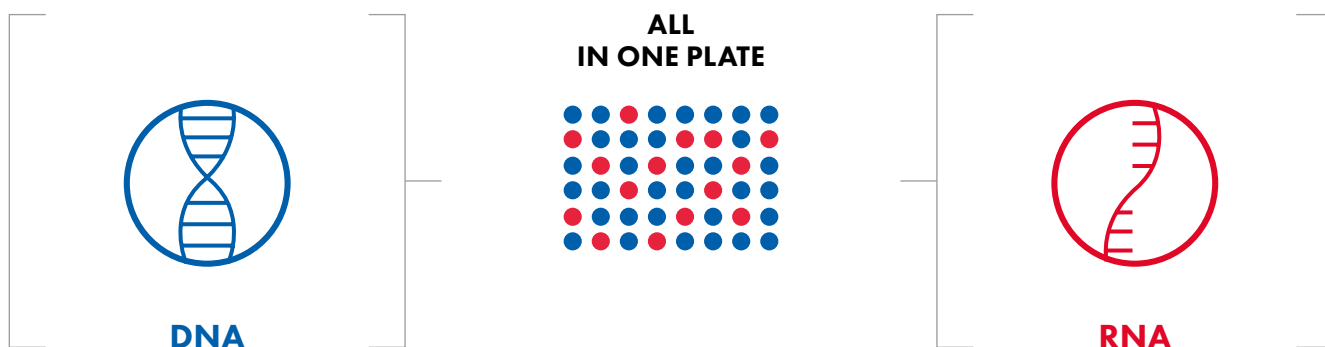
During PCR, labelled amplicons are separated by size and their individual fluorescence is measured. Since multiple measurements are made during the PCR, an amplification curve is formed, from which the threshold cycle (Ct) for each amplicon is determined.

# MODAPLEX

## MULTI-MODAL ANALYSIS

DISCOVER ALL TYPES OF GENETIC  
ABERRATIONS SIMULTANEOUSLY

With Modaplex, users can investigate all types of genetic aberrations using one platform. All Modaplex tests run on the same PCR program. Because of this universal PCR protocol, all tests can be performed simultaneously, which helps to avoid sample batching. The fact that DNA and RNA targets can be analyzed in one run adds to the flexibility of the platform.



### APPLICABLE IN ALL LIFE SCIENCE AREAS

- Infectious disease
- Food
- Oncology
- Companion diagnostics
- Quality control
- Veterinary science
- Agriculture

### COMPATIBLE WITH VARIOUS SAMPLE TYPES

- Plasma, serum, whole blood
- Liquid biopsies
- Stool
- Tissue
- Formalin-fixed, paraffin-embedded tissue (FFPE)
- Cell lines/cell cultures
- Fungi, bacteria and viruses

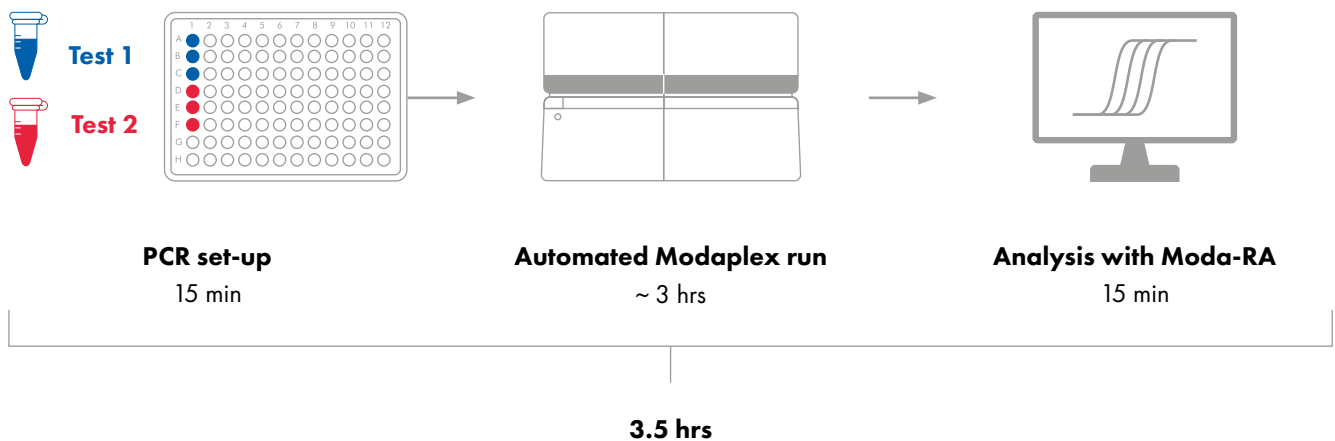
### SUITABLE FOR ALL BIOLOGICAL MARKERS

- Gene expression
- Mutations
- miRNA
- Copy number variation
- lncRNA
- Gene fusion
- Fragment length polymorphism
- DNA methylation
- SNP
- Polysomy
- Splicing variants

# MODAPLEX WORKFLOW

## SAME-DAY RESULTS THROUGH A WORKFLOW AS SIMPLE AS PCR

The Modaplex load-and walk away workflow is identical for all tests and combinations of tests. Hands-on activities are reduced to a minimum and are limited to the PCR set-up and data analysis. Target amplification, multiple CE-based separations and target detection are performed automatically, ensuring that the Modaplex run time is always ~ 3 hours.



## ADDITIONAL ADVANTAGES OF MODAPLEX

### Data Analysis

Takes minutes with intuitive Modaplex Result Analyzer software (Moda-RA)

### Convenience

Barcode-secured fluidics  
Barcode-secured workflow  
Automated fill-level reporting

### Sample Input

Suitable for low nucleic acid inputs. Depending on the assay, only 2 ng per reaction is required. Multiple DNA and RNA assays can be performed e.g. from a single FFPE slide.

### Various applications, same workflow

Monitoring of phenotype changes related to gene expression changes  
Detection, differentiation and quantification of multiple targets for various infectious agents  
Quality control in biopharmaceutical manufacturing

## ORDER INFORMATION

Product	Cat. no.	Application
Modaplex instrument	00-04901-0001	
Modaplex FGFR CNV Analysis Kit	BTI-C001-A1-2-0050	RUO
Modaplex FGFR Gene Fusion Analysis Kit	BTI-C001-B1-2-0050	RUO
Modaplex FGFR Mutation Analysis Kit	BTI-C001-C1-2-0050	RUO
Modaplex FGFR Gene Expression Analysis Kit	BTI-C001-C1-2-0050	RUO
Modaplex POLE/POLD1 Mutation Analysis Kit	BTI-C003-C1-2-0050	RUO
Modaplex <i>Clostridium difficile</i> Analysis Kit	BTI-C004-F1-3-0050	CE IVD

### Assays under Development

Modaplex Toolbox

Modaplex KRAS Mutation Analysis Kit

Modaplex NRAS Mutation Analysis Kit

Modaplex BRAF Mutation Analysis Kit

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