

Direct access to same-day-results





Fully Automated Molecular Diagnostics



ACCESSIBLE

24/7

FAST ACCURATE EASY



"We at Biocartis aim to provide direct access to personalized medicine for patients worldwide by developing fully integrated and broadly applicable molecular diagnostics. Our platform can be used in a wide variety of healthcare settings to enable rapid and high-quality care close to patients"

Rudi Pauwels, Founder Biocartis



The need for improved, standardized and fast diagnostics

Cancer can hit anyone at any time and treatment remains a real challenge. Because cancer doesn't follow rules. It fights back against therapies. It adapts. It changes its path. It does whatever it can to stay ahead of us.

At the advanced edge of oncology, **rapid access** to **accurate data** about relevant cancer mutations and treatment resistance is vital and creates the opportunity for early disease interception^{4,5}, reducing the anxiety while waiting for results and the time before starting the best possible treatment. Current technologies in molecular oncology are complex, require a lot of hands-on time and are often difficult to implement in the local laboratory. As a consequence, most laboratories do not perform molecular tests in-house, but send them out to specialized centers, where samples are batched in order to optimize costs.¹⁻³

This causes delay to the fast delivery of results, preventing rapid initiation of correct therapy. In the meantime the tumor grows, which is detrimental in case of aggressively growing cancers.

The need for a rapid treatment initiation response towards patients

Fast initiation of immunotherapy or targeted therapy as first-line treatment is crucial for cancer patients, as it increases overall survival rates.^{9,10,11,17,22} Timely detection of biomarkers therefore is very important.

Today, turnaround times of reference technologies are on average 18 days, with 14% of patients waiting longer than a month to be able to start treatment. Ninety-five percent of the patients have to wait more than a week in order to receive the biomarker results.⁶

Total turnaround time of reference technologies



This means that precious time is lost whereas treatment initiation could have been started and unnecessary use of chemotherapy with its side effects could have been avoided.

Idylla[™], the next level in disease interception

Idylla[™], a **fully automated**, sample-to-result PCR based **molecular diagnostics** system, provides **sameday** results enabling physicians to make **timely decisions** on patients' therapy.

IdyllaTM, can be used with **multiple sample types**, including **solid** and **liquid*** biopsies. This flexibility allows use of the system for respectively **diagnosis**, and **research** or possibly future **monitoring** applications. ldylla[™], with its **compact scalable design** and **outstanding ease-of-use**, overcomes the traditional barriers of molecular diagnostics, allowing it to be used in virtually **any laboratory setting**.



* Liquid biopsy currently available only for research applications

** e.g. deparaffinization for FFPE tissue samples

Idylla[™] is the first and only molecular diagnostic system that combines



FAST RESULTS

- Less than 2 minutes hands-on time
- Short turnaround time 40 to 150 minutes



ACCURATE RESULTS

- High sensitivity
- Highly standardized technology
- Contamination-controlled design



EASE-OF-USE

- Fully automated sample-to-result process
- Walk-away system (no need for any intervention during the automatic process)
- All reagents integrated in a single cartridge
- Only 1 manual step
- Storage and shipment at room temperature



ACCESSIBLE

• Access on demand - no need for pre-processing or batching

SAMPLE VERSATILITY

• For solid and liquid biopsy*

(ff)

MULTIPLEXING CAPABILITY

- Detection of up to 52 relevant mutations in one cartridge
- Multiple genes and loci detection in one cartridge

CONNECTIVITY

- Remote assistance, monitoring and upgrading
- Bi-directional LIS



The revolutionary Idylla[™] workflow

The Idylla[™] system in combination with the Idylla[™] Molecular Oncology Assays differs from other technologies in its outstanding **ease-of-use**, leading to an unsurpassed level of **standardization**, and its **short turnaround time**, allowing immediate access to therapy.

FFPE workflow





Liquid biopsy* workflow



Instruments and consumables



Pyrosequencing

Next generation sequencing





Current oncology assays



FFPE in - report out

Diagnostic products (CE IVD)

- Idylla[™] BRAF Mutation Test
- Idylla[™] KRAS Mutation Test
- Idylla[™] NRAS-BRAF Mutation Test
- Idylla[™] NRAS Mutation Test

Research products (RUO)

- Idylla[™] BRAF Mutation Assay
- Idylla[™] KRAS Mutation Assay
- Idylla[™] EGFR Mutation Assay
- Idylla[™] NRAS-BRAF-EGFR S492R Mutation Assay



Research products (RUO)

- Idylla[™] ctBRAF Mutation Assay
- Idylla[™] ctKRAS Mutation Assay
- Idylla[™] ctNRAS-BRAF-EGFR S492R

Future oncology assay targets





Plasma in - report out

- ctNRAS-BRAF
- ctEGFR

BRAF CtBRAF.

Idylla[™] BRAF mutation detection on solid and liquid biopsies

Activating mutations in the *BRAF* gene are observed in about 8% of all cancers⁷ and have been associated with sensitivity and resistance to a number of targeted anti-cancer therapeutics.

Cancers in which *BRAF* mutations are observed include: melanoma, colorectal cancer, thyroid cancer, lung cancer, hairy cell leukemia and ovarian cancer.

BRAF testing is recommended in all patients with metastatic melanoma and metastatic colorectal

cancer (mCRC). About 50% of all metastatic melanoma patients harbor mutations in the *BRAF* gene, making them eligible for BRAF or BRAF/MEK inhibitor therapy.⁸ In mCRC, BRAF mutation status should be assessed alongside the assessment of tumor *RAS* mutational status for prognostic assessment (the presence of a *BRAF* mutation indicates poor prognosis). The prevalence of *BRAF* in mCRC is about 8-15%.⁹



Prof. B. Neyns, M.D., Ph.D Medical Oncology, UZ Brussels, Belgium

"The Idylla[™] system has the potential to allow the start of targeted therapy within a time window of less than 24 hours following the diagnosis of metastasis, thereby saving precious time"

EGFR

Idylla[™] EGFR mutation detection on solid biopsy

Activating mutations in the *EGFR* gene have been associated with sensitivity and resistance to a number of targeted anti-cancer therapeutics.¹⁷

EGFR mutations are mainly observed in lung cancer.

EGFR mutation testing is recommended in all patients with advanced non-small-cell lung cancer (NSCLC) of a non-squamous subtype.

The prevalence of

EGFR mutations in NSCLC

adenocarcinomas is 10-15% of Western and up to 50% of Asian patients. Sensitizing *EGFR* mutations are predictive for response to EGFR tyrosine kinase inhibitors.^{11,17,21}

RESEARCH PRODUCT

Idylla™ EGFR Mutation Assay (RUO)

Research Use Only, not for diagnostic use



Directly on 1 FFPE tissue section (5µm) from **metastatic non-small-cell lung cancer**

EGFR

Qualitative genotype call

Prof Giancarlo Troncone

University of Napoli Federico II, Naples

 "Today, EGFR testing is a cumbersome process and it often takes several weeks before results are analyzed.
 This may lead to the administration of anti-EGFR therapy as second-line agents, which is less efficient than their use in first-line therapy. The ldylla[™] EGFR Mutation assay technology has the potential to change that: it is a cost-effective solution, ensuring reliable and fast detection of all relevant mutations"

KRAS CtKRAS.

Idylla[™] KRAS mutation detection on solid and liquid biopsies

Activating mutations in the *RAS* genes are observed in 9-30% of all cancers and have been associated with sensitivity and resistance to a number of targeted anti-cancer therapeutics.¹² Cancers in which *KRAS* mutations are observed include: colorectal cancer, lung cancer and pancreatic cancer.

According to ESMO⁹, NCCN¹⁴, ASCO¹⁶ and CAP/AMP/ ASCO guidelines¹⁵, genotyping of clinically actionable mutations at a sensitivity of 5% in *RAS* genes exon 2 (codons 12 and 13), exon 3 (codons 59 and 61) and exon 4 (codons 117 and 146) is now mandatory on tumor tissue (either primary or metastasis) of all metastatic colorectal cancers, since the presence of these mutations correlate with the lack of response to certain anti-EGFR antibody therapies⁹. About 46% of all metastatic colorectal tumors harbor mutations in exons 2, 3 and 4 of the *KRAS* gene.¹³

Several studies are ongoing to define the predictive impact of *KRAS* mutations on therapy decision for non-small-cell lung cancer (NSCLC) patients^{18,19,20}. Currently there is evidence that *KRAS* in lung cancer has a prognostic value, indicating poor survival for patients with NSCLC, compared to the absence of *KRAS* mutations.¹¹

Using liquid biopsies for *KRAS* testing is minimally invasive, fast and easy to perform and provides an excellent solution to study the presence of *KRAS* mutations in different cancer types.

RESEARCH PRODUCT

KRAS

Idylla[™] ctKRAS Mutation Assay (RUO)

ctKRAS.

Diagnostic use

Image: proper biologic proper biologi

Research use only, not for diagnostic use



Beatriz Bellosillo

DIAGNOSTIC PRODUCT

Idylla[™] KRAS Mutation Test (CE IVD)

Laboratori de Biologia Molecular, Hospital del Mar, Barcelona " Idylla[™] allows very quick results with little hands-on time"

NRAS NRAS - BRAF CtNRAS3.

Idylla[™] NRAS mutation detection on solid and liquid biopsies

NRAS - BRAI

NRA

Activating mutations in the *RAS* genes are observed in 9-30% of all cancers and have been associated with sensitivity and resistance to a number of targeted anti-cancer therapeutics.¹² Cancers in which *NRAS* mutations are observed include colorectal, lung, thyroid cancers and melanoma. According to ESMO⁹, NCCN¹⁴, ASCO¹⁶ and the CAP/AMP/ASCO guidelines¹⁵, genotyping of clinically actionable mutations at a sensitivity of 5% in *RAS* genes exon 2 (codons 12 and 13), exon 3 (codons 59 and 61) and exon 4 (codons 117 and 146) is now mandatory on tumor tissue (either primary or metastasis) of all metastatic colorectal cancers, since the presence of these mutations correlate with the lack of response to certain anti-EGFR antibody therapies⁹. About 5% of all metastatic colorectal tumors harbor mutations in exons 2, 3 and 4 of the *NRAS* gene.¹³

In metastatic colorectal cancer *BRAF* mutation status should be assessed alongside the assessment of tumor *RAS* mutational status for prognostic assessment (the presence of a *BRAF* mutation indicates poor prognosis). Using liquid biopsies for *NRAS* testing is minimally invasive, fast and easy to perform and provides an excellent solution to study these mutations in different cancer types and lesions. Recent research data^{23,24} suggest that in about 16% of patients, mutations may develop in codon 492 of the *EGFR* gene as a mechanism of resistance, to the anti-EGFR antibody therapies such as cetuximab.

RESEARCH PRODUCT

ldylla™ **ctNRAS-BRAF-EGFR S492R** Mutation Assay (RUO) ctNRAS3.

Research use only, not for diagnostic use



DIAGNOSTIC PRODUCT

Idylla[™] NRAS-BRAF Mutation Test (CE IVD) Idylla[™] NRAS Mutation Test (CE IVD)

Diagnostic use



Idylla™ Connect Engage in the future



Advanced services to ensure continuity in your laboratory workflow

Automatic software updates

New releases of assay and console software are sent to your ldylla[™] console and can be installed with a single touch on the screen.



Immediate and remote service and support

ldylla[™] system parameters and error logs can be analyzed at anytime and anywhere to ensure swift actions and solutions.

• More insight into your data with Idylla™ Explore

Get connected and enjoy **the advantages of Idylla™ Explore**, a web-based application that allows you to analyze your data by providing

- Visualization of PCR curves from Idylla[™]Test Results
- Cq values per target
- Direct Access to Console result reports

US SECURES DATAFLO

Idylla™ Explore can be accessed anywhere and anytime from your PC or tablet through the following link: **https://idyllaexplore.biocartis.com**

Subscribe today and join the Idylla[™] Explore community by sending an email to explore@biocartis.com



Custom-made solutions Biocartis offers personalized solutions that fit your individual needs

- Create a network between different IdyllaTM User sites and share data and knowledge
- Direct access to your data for building your own solution
- Statistical analysis on your obtained data
- Monitoring: Follow-up of your data over time
- Disease surveillance or diagnostic grid: linking of real-time molecular diagnostic test data to geo-location and sample data





Join the investigation

There's a clear need for improved, standardized and fast diagnostics that allow faster initiation of targeted therapy for cancer patients.

IdyllaTM, Biocartis' fully automated molecular diagnostics system, is the first and only molecular diagnostic system that combines unsurpassed easeof-use, speed and accuracy on multiple sample types. With its **compact, scalable design and outstanding ease-of-use**, IdyllaTM overcomes the traditional barriers of molecular diagnostics, allowing it to be used in virtually any laboratory setting. And by providing same-day-results, Idylla[™] enables physicians to make timely decisions on patients' therapy.

Idylla[™], the next level in disease interception.

Idylla[™] order information

Diagnostic Products (CE-IVD)		
Idylla™ BRAF Mutation Test	6 cartridges/box	Catalog# A0010/6
Idylla™ KRAS Mutation Test	6 cartridges/box	Catalog# A0020/6
Idylla™ NRAS-BRAF Mutation Test	6 cartridges/box	Catalog# A0030/6
Idylla™ NRAS Mutation Test	6 cartridges/box	Catalog# A0040/6
Research Products (RUO)		
Idylla™ BRAF Mutation Assay	6 cartridges/box	Catalog# A0011/6
Idylla™ KRAS Mutation Assay	6 cartridges/box	Catalog# A0021/6
Idylla™ EGFR Mutation Assay	6 cartridges/box	Catalog# A0061/6
Idylla™ NRAS-BRAF-EGFR S492R Mutation Assay	6 cartridges/box	Catalog# A0031/6
Idylla™ ctKRAS Mutation Assay	6 cartridges/box	Catalog# A0081/6
Idylla™ ctBRAF Mutation Assay	6 cartridges/box	Catalog# A0071/6
ldylla™ ctNRAS-BRAF-EGFR S492R Mutation Assay	6 cartridges/box	Catalog# A0091/6
Platform (CE-IVD)		
ldylla™ Instrument	1 unit	Catalog# P0010
ldylla™ Console	1 unit	Catalog# P1010

customerservice@biocartis.com www.biocartis.com

Biocartis NV Generaal de Wittelaan 11 B3 2800 Mechelen - Belgium T +32 15 632 888

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Idylla[™] NRAS Mutation Test, Idylla[™] NRAS-BRAF Mutation Test, Idylla[™] NRAS-BRAF-EGFR S492R Mutation Assay and Idylla[™] ctNRAS3 Mutation Assay

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IMPORTANT INFORMATION

Idylla^m platform, Idylla^m BRAF Mutation Test, Idylla^m KRAS Mutation Test, Idylla^m NRAS Mutation Test and Idylla^m NRAS-BRAF Mutation Test are CE-marked IVDs in Europe. Idylla^m BRAF Mutation Assay, Idylla^m ctBRAF Mutation Assay, Idylla^m KRAS Mutation Assay, Idylla^m ctKRAS Mutation Assay, Idylla^m NRAS-BRAF-EGFR S492R Mutation Assay, Idylla^m ctNRAS-BRAF-EGFR S492R Mutation Assay and Idylla^m EGFR Mutation Assay are available for Research Use Only, not for use in diagnostic procedures. Idylla^m ctBRAF Mutation Test, Idylla^m ctKRAS Mutation Test, Idylla^m EGFR Mutation Test, Idylla^m MSI Assay, Idylla^m ctNRAS-BRAF-Mutation Test and Idylla^m ctEGFR Mutation Assay are under development. Idylla^m is not yet for sale in USA.

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www.biocartis.com

Biocartis NV Generaal de Wittelaan 11 B3 2800 Mechelen - Belgium T +32 15 632 888

customerservice@biocartis.com www.biocartis.com

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