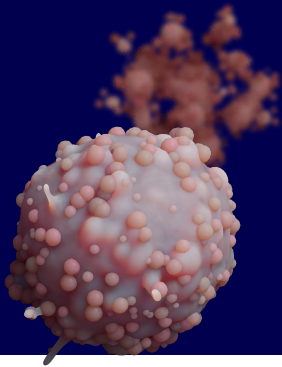# BostonGene

Tumor Portrait™ test

From Treating a Diagnosis to Treating the Patient

DNA
analysis

RNA
analysis

Immune
profiling

Treatment
recommendation

BostonGene performs integrated molecular and immune profiling to assist oncologists in treatment selection by providing:

- ✓ One simple report
- ✓ Comprehensive multi-omics analysis
- ✓ Effective treatment options for every cancer patient

covered by MEDICARE
for advanced cancers

NEW YORK STATE | Department of Health

CLIA Clinical Laboratory Improvement Amendments

CAP ACCREDITED
COLLEGE of AMERICAN PATHOLOGISTS

Comprehensive multi-omics analysis

The BostonGene Tumor Portrait™ test reveals biomarkers of response to diverse therapies, actionable mutations, immune microenvironment properties, and treatment options by integrating DNA and RNA results into one simple report.

DNA analysis

- MSI status
- TMB status
- Germline alterations
- Clonal and subclonal analysis
- Cancer-specific genetic subtypes (e.g., smoking signatures)

RNA analysis

- Gene fusions
- Novel fusions
- Gene expression analysis
- Diagnostic and prognostic gene expression signatures (e.g., PAM50, CMS)

99.9% Accuracy
99.9% Specificity

- ✓ Test covers more than 22,000 genes
- ✓ Tumor-normal sequencing
- ✓ Optional IHC staining
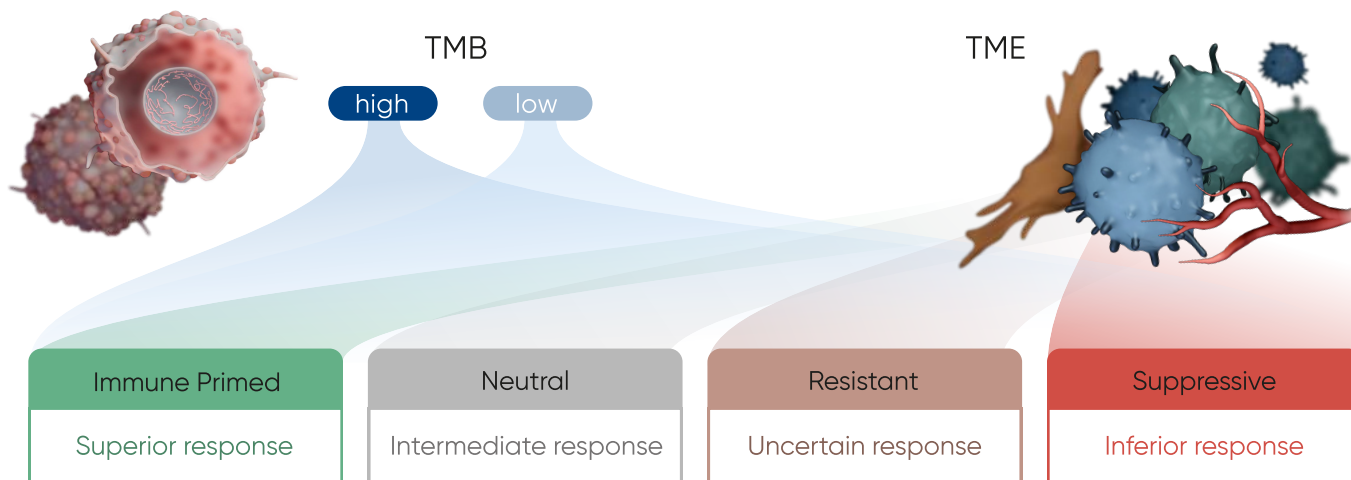 PD-L1 & MMR

Tumor Immunity Portrait™

Immunoprofiling beyond single factors

IO-therapy response prediction is based on the combination of tumor microenvironment (TME) typing and tumor mutation burden (TMB) status. Patients are stratified into four categories that are predictive of response to immunotherapy.

Cancer Cell

In top 10 editors' picks 2021, Cancer Cell

"Conserved pan-cancer microenvironment subtypes predict response to immunotherapy" (Bagaev et al., 2021) is one of ten research articles that represent cutting-edge areas of cancer research and oncology.

TMB

high   low

TME

Immune Primed	Neutral	Resistant	Suppressive
Superior response	Intermediate response	Uncertain response	Inferior response

One simple report

View comprehensive results in a structured format

The BostonGene Tumor Portrait™ report highlights all key findings and treatment recommendations on one page.

BostonGene
TUMOR PORTRAIT™

Sex: Female
Date of birth:
Diagnosis: Non-small cell lung cancer
Stage: IV
Histology: Adenocarcinoma
Therapy status: First-line systemic therapy

Source: Right lung
Type: FFPE
Tumor content: 21% (NGS)
Specimen & block ID:
Collected:
Source of normal DNA: Whole blood
Collected:

Physician:
Institution:
Pathologist:
Pathology lab:

Treatment Timeline

● Squamous cell carcinoma in situ of skin
10/2023

● NSCLC
12/2023

BG⊠ Biopsy
01/2024

SUMMARY REPORT: NON-SMALL LUNG CANCER   COMPREHENSIVE GENOMIC PROFILE

SELECTED MOLECULAR FINDINGS   For more information see Biomarkers section

EGFR G719C GOF	*Afatinib*	1	Superior Response
↳	*Dacomitinib*	1	Superior Response
↳	*Erlotinib*	1	Superior Response
↳	*Gefitinib*	1	Superior Response
↳	*Osimertinib*	1	Superior Response
MET high-level amplification	*Tepotinib + Gefitinib*	3	Superior Response
↳	*Tepotinib + Osimertinib*	3	Superior Response

| **TMB** | 3.02 mut/Mb (Low) |
| **Microsatellite status** | Stable |

GERMLINE ───────────────────────────────

ATM mutation, ENST00000675843: c.7096G>T; p.E2366*, pathogenic

NEGATIVE ───────────────────────────────

Negative for reportable events in ALK (fusion), BRAF, HER2, KRAS, NTRK 1/2/3 (fusion), RET (fusion), ROS1 (fusion).

SELECTED TREATMENT OPTIONS   For more information see Potential Treatment Options section

Afatinib / Osimertinib `NCCN` `FDA`

IN NCCN GUIDELINES
1 ☑ EGFR G719X mutation

More options: Osimertinib or Bevacizumab + Osimertinib (1 matched trial)

Dacomitinib / Erlotinib / Gefitinib `NCCN` `FDA`

IN NCCN GUIDELINES
1 ☑ EGFR G719X mutation

To see the complete list of NCCN recommended treatment options, please see the "NCCN Guidelines — Treatment Options" section or go to NCCN.org. Presented above is a BostonGene selection of therapies based on the NCCN Guidelines. [a]

SELECTED MATCHED TRIALS   For more information see Potential Recruiting Trials section

| **EGFR G719C** mutation | 5 trials identified | **MET** high-level amplification | 2 trials identified |
| **NTRK1** amplification | 1 trial identified | | |

Effective treatment options for every cancer patient

Meticulously curated & daily updated databases:

More than 30 BostonGene-developed databases used for each report generation, including Astraea — proprietary Biomarkers Database with over 8,000 biomarkers helps to keep each report up-to-date with only clinically actionable information.

AI-based treatment recommendation

BostonGene's algorithmic patient-tailored treatment selection provides two of the most likely applicable therapy options by taking into account the following:
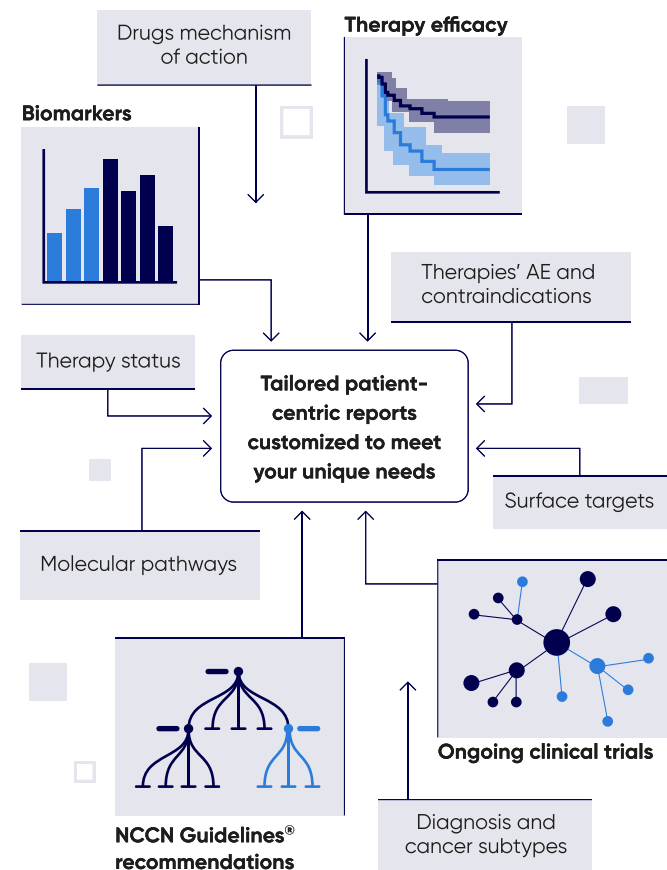
- Patient's clinical history
- Molecular findings
- Latest clinical efficacy data from a similar patient cohort
- NCCN Guidelines® treatment recommen-dations and FDA-approved therapies

Personalized clinical trials

Applicable clinical trials for each patient, filtered by:

- Clinical information
- Inclusion criteria and molecular parameters
- Geographical location

Our algorithms and MD experts tailor relevant information for the patient

Drugs mechanism of action

Therapy efficacy

Biomarkers

Therapies' AE and contraindications

Therapy status

Tailored patient-centric reports customized to meet your unique needs

Surface targets

Molecular pathways

Ongoing clinical trials

NCCN Guidelines® recommendations

Diagnosis and cancer subtypes

NCCN

BostonGene integration with NCCN Clinical practice guidelines in oncology (NCCN Guidelines®)

> "We are pleased that BostonGene will be utilizing the NCCN Guidelines to generate reports linking biomarker results with evidence-based treatment recommendations." — Robert W. Carlson, MD, Chief Executive Officer at NCCN.

Turnaround time
10-12 days

Test results will be available approximately 10-12 days after the tumor and normal specimens are received in the BostonGene laboratory.

Financial assistance program

BostonGene offers a robust financial assistance program to reduce the financial burden on the patient. Patients can apply for our financial assistance program by completing the application form (included in the kit or available online).
The program covers longitudinal testing for up to 18 months.

How to start

Order BostonGene kit
Retrieve a BostonGene whole blood or saliva collection kit.
To order new kits, contact your BostonGene representative or email: clientservices@bostongene.com.

Complete requsition
Fill out the Test Requisition Form (TRF). Fax or email the TRF and accompanying documents (pathology report and progress notes) to BostonGene.

Collect a normal sample
Use the BostonGene kit to collect a normal sample (saliva, blood or buccal swab) and ship it to BostonGene.

BostonGene will contact pathology lab
BostonGene will request formalin-fixed paraffin-embedded (FFPE) tissue from the pathology lab, and will provide a BostonGene FFPE kit for the tumor sample.

Get the final report
Get the report via the BostonGene Customer Portal or a secure/encrypted email/fax. Once your first report is ready, an email notification will be sent with a link to activate your access to the portal.
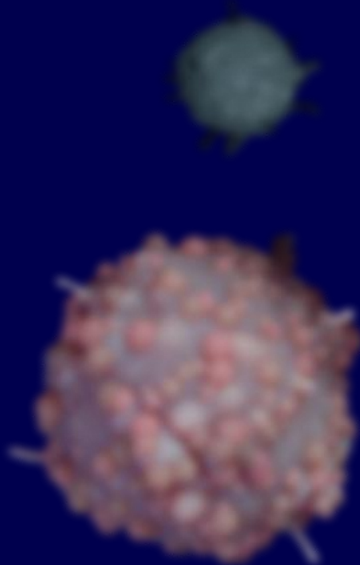
Specimen requirements

BostonGene Tumor Portrait™ **test:** 1 FFPE block or 10 FFPE unstained slides + 1 H&E slide

BostonGene IHC assays: 1 additional unstained slide for PD-L1 and 4 additional unstained slides for MMR

Partners

BostonGene collaborates with leading cancer centers, providing innovative technologies to develop and validate novel precision medicine approaches.

Optimizing treatment through comprehensive testing

For all questions please contact
clientservices@bostongene.com
+1 781-552-3131
8:00am–5:00pm ET Monday–Friday