Integrate Cancer Genomics into Your Practice
Personalized medicine is now a reality for many cancer patients. Genomic information is profoundly impacting the way oncologists treat patients and how researchers develop therapies. New technology provides an opportunity to customize care, and to potentially create better outcomes for your patients.1,2,3

There is a rapid pace of change in the understanding and management of cancer. Insights into the molecular drivers of cancer have led to clear and practical advancements in drug discovery. Today, researchers target specific underlying molecular defects in cancer in the quest to produce better, more precise therapies.4,5,6

But as new options emerge, selecting an appropriate therapy becomes more complex.4

In the last 5 years, 68 different targeted agents have been approved for over 22 cancers—with an evolution toward genomically-driven approvals (i.e. NTRK and microsatellite instability).4

Source: IQVIA, ARK R&D Intelligence, Feb 2017; IQVIA Institute for Human Data Science, Mar 2017
**Genomic Profiling** is relevant in all cancer types

Non-small cell lung cancer (NSCLC) showcases the exponential growth in targeted therapies resulting from an improved understanding of its molecular drivers. As options increase in other cancer types, there is a growing need for diagnostic tools that can streamline the information and inform treatment decisions.

Guidelines acknowledge the value of testing

The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for NSCLC recommend molecular testing and strongly advise broad molecular profiling to identify rare driver mutations for which effective drugs may already be available, or to counsel on the availability of clinical trials.

Molecular testing* is recommended in a growing number of NCCN Guidelines® including:

- Breast Cancer
- Colon Cancer
- Gastrointestinal Stromal Tumors
- Acute Myeloid Leukemia
- Chronic Myeloid Leukemia
- Metastatic Melanoma

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* Molecular testing in melanoma, colon, and ovarian.
† Molecular testing in melanoma is not recommended unless required to guide systemic therapy or consideration of clinical trials. Molecular testing may also be considered for histologically equivocal lesions.
‡ Molecular testing with qPCR is recommended at diagnosis and every 3 months after initiating treatment. BCR-ABL kinase domain mutation analysis is recommended for patients who do not achieve response milestones, for those with any sign of loss of response (hematologic or cytogenetic relapse), and if there is 1-log increase in BCR-ABL levels.

*Represents adenocarcinoma
Traditional molecular profiling may not uncover all the treatment options

Genomic profiling allows you to determine the genes that may be driving tumor growth and identify patients who may benefit from therapy.

But traditional testing methods, such as FISH and PCR, have significant limitations:

- **INEFFICIENCY:** May require sequential testing in certain cancer types, which can be time consuming.\(^{10,19,20}\)

- **RISK OF RE-BIOPSY:** Multiple tests exhaust precious tissue and may require your patients to have another biopsy.\(^{10,19-21}\)

- **INCOMPLETE INFORMATION:** Single-gene tests or focused panels provide results on a limited or small subset of genes and classes of alterations.\(^{10,19-25}\)

**Alternatively,** comprehensive genomic profiling (CGP) looks beyond specific alterations and reveals a comprehensive picture of any patient’s cancer with less tissue.\(^{10,11,19-25}\)

When to consider comprehensive genomic profiling\(^ {10,11,19-25}\)

CGP can help you gain a better understanding of your patients’ tumors, which can prove valuable at many stages of their journey.

**First Line\(^ {19}\)**

When a patient is diagnosed with cancer, CGP can help you:

- Develop a treatment plan.
- Prevent prescription of contraindicated therapies.
- Avoid trial-and-error treatments.
- Inform prognosis.
  - With hematologic malignancies, this may guide decisions around transplantation or other invasive treatments.

**At Progression/Relapse\(^ {19,20}\)**

When a patient progresses on therapy or his or her cancer recurs, CGP can:

- Highlight potential next steps.
- Uncover resistance mutations or new alterations evading current therapies.
- Report biomarkers that help predict response to immunotherapies.

**Refractory\(^ {19,20}\)**

When a patient’s status fails to improve after multiple lines of therapy, CGP may help uncover new options for patients, such as:

- Clinical trials.
- Therapies intended for other cancer types.
- Peace of mind that all options have been explored.
Foundation Medicine is uniquely positioned to support any CGP needs in your practice

- Deep expertise with more than 200,000 patient cases across hundreds of cancer types.*
- Proven record of innovation fueled by genomic experts and continuous collaboration with cancer professionals worldwide.
- Portfolio designed to ensure you have access to quality genomic insights regardless of cancer or specimen type.
- Each report curated and reviewed by a team of oncologists, pathologists, and bioinformatics scientists who are available for high-touch clinical support.

*As of August 2018

Foundation Medicine offers a solution for all cancer types

Foundation Medicine Product Portfolio

- **Solid Tumors**
  - Tissue Biopsy
  - Liquid Biopsy
  - Hematologic Malignancies and Sarcomas

- **Foundation Medicine Product Portfolio**
  - **Liquid Biopsy**
  - **Tissue Biopsy**
  - **Solid Tumors**
  - **Hematologic Malignancies and Sarcomas**

- **First FDA-approved comprehensive genomic profiling test across all solid tumors, including companion diagnostic indications for 17 targeted therapies and national coverage for qualifying Medicare and Medicare Advantage patients**

- **A comprehensive genomic profiling test to support targeted therapeutic selection, particularly for patients for whom tissue biopsy is not ideal**

- **A comprehensive genomic profiling test that sequences DNA and RNA for specialized fusion detection to assist with diagnostic subclassification, prognostic assessment, and targeted therapeutic selection**

- **FDA-Approved**
  - **NY State-Approved Products Performed in a CLIA-Certified Lab**

- **FOUNDATIONONE®CDx**
  - **FOUNDATIONONE®LUNG**
  - **FOUNDATIONONE®HEME**
FoundationOne®CDx is a next-generation sequencing based biomarker testing and identifies patients who may benefit from enrollment in mechanism-driven clinical trials. The Oncologist 2016;21:684-91.

References


Learn more at foundationmedicine.com or contact us at client.services@foundationmedicine.com