An Introduction to Cancer Research Solutions

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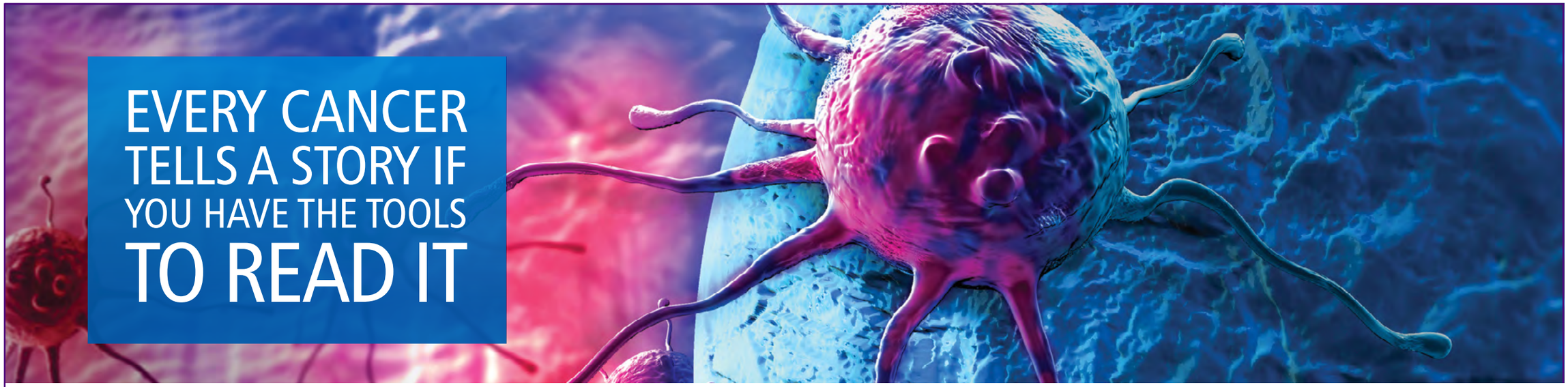

EVERY CANCER TELLS A STORY IF YOU HAVE THE TOOLS TO READ IT

Cancer isn't a single disease, but a complex group of hundreds of separate diseases – and the global incidences of these cancers are increasing all the time. So there's a new urgency toward understanding cancer's biology and translating that information to achieve better clinical outcomes.

We're committed to helping you explore and unravel the complexities of cancer and turn those findings into effective treatments. With a diverse range of solutions to accelerate cancer research, we help scientists study all aspects of cancer, from genomics to biomarker discovery and beyond. Our solutions are helping researchers to:

- Determine a compound's effects on 3D tumor models
- Study tumor biology in animal models
- Examine the tumor and its microenvironment
- Understand cellular metabolism pathways in cancer cells
- Examine the cellular and molecular drivers of immunotherapy resistance
- Discover and characterize cancer biomarkers
- Access, aggregate, and analyze data from multiple clinical studies

The next big cancer breakthrough will begin with research. And that research can begin with you.

- Cancer Genomics
- Cell-Based Assays
- Cellular Imaging
- *In Vivo* Imaging
- Informatics

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DECODING THE GENETICS OF CANCER

Identifying the genetic and epigenetic changes at the root of cancer has improved our understanding of its biology and led to new methods of diagnosing and treating the disease. Our genomic solutions help scientists overcome challenges associated with liquid biopsy and single-cell sequencing methods so they can identify and validate biomarkers faster.

We offer complete sequencing workflows based on your individual input and throughput needs, including:

- Next-generation sequencing (NGS) solutions that help scientists understand the molecular basis of tumor growth and metastasis and uncover targeted treatments
- Liquid biopsy solutions that simplify the analysis of cell-free nucleic acids while reducing the risk of errors
- Small RNA sequencing workflows with kits that reduce ligation bias through the addition of randomized adapters
- Single-cell RNA sequencing (scRNA-seq) workflow solutions, from sample collection and storage to sequencing-ready NGS libraries

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Learn More About It: Dig deeper into hot topics in genetics research by clicking the images below.

REVEALING THE MOLECULAR INTERACTIONS OF CANCER CELLS

Understanding the complex molecular interactions involved in tumor biology is the cornerstone of cancer research and key to developing therapeutic strategies. Biochemical and cell-based assays help researchers better understand the mechanisms involved in tumor growth, angiogenesis, and metastasis, as well as the numerous interactions within the cancer immunity cycle.

We offer researchers a broad range of robust, easy-to-use assays for monitoring the following interactions:

- STING signaling pathway
- Cytokine and cell-signaling assays for Toll-like receptor signaling
- Immune checkpoint binding and detection kits
- T-cell receptor signaling
- Cytokine, biomarker, and cell-signaling assays to support CAR-T cell therapy research

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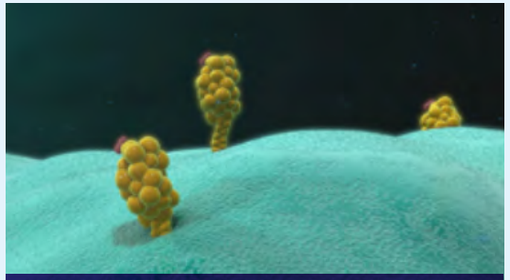
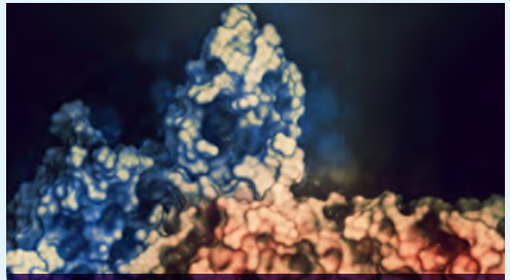
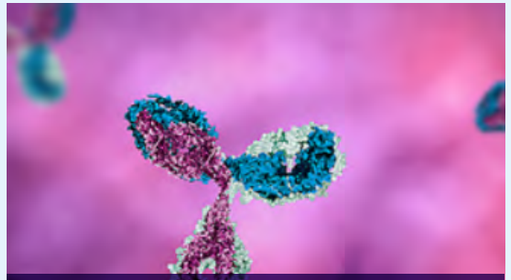
Learn More About It: Dig deeper into hot topics in molecular research by clicking the images below.



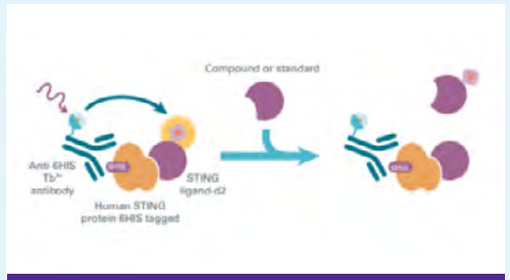
Measuring PDL-L1 Expression in Cancer Cell Lines



Screening for Inhibitors of PD-1 and PD-L1 Binding



Evaluating Specificity of PD-1 and PD-L1 Blocking Antibodies



Unlocking the STING Polymorphism

IMAGING DEEPER INTO CANCER CELLS

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Cellular imaging is a proven, powerful tool for improving our understanding of cancer biology, allowing you to visualize important aspects of cancer, including tumor cell mobility, invasion, metastasis, and angiogenesis. Whether you're exploring complex biological pathways in cancer cells or investigating how drugs affect those processes, we have cellular imaging tools to help you advance your cancer research and discovery.

Our cellular imaging solutions allow you to:

- Gain deeper insights from the phenotypic screening of live cancer cells, 3D cell models, and stem cells
- Detect subtle phenotypic changes in response to drugs
- Image living cells under optimal conditions for physiologically relevant results

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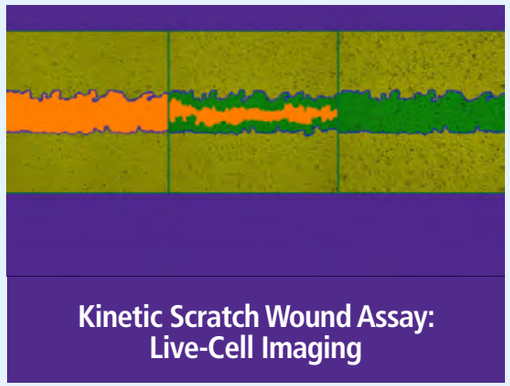

CANCER BIOLOGY AND THERAPEUTIC EFFICACY *IN VIVO*

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Noninvasive small-animal *in vivo* imaging is a well-established tool for enabling visualization and quantification of cancer. Whether you're tracking tumor growth and progression, evaluating therapeutic response, performing drug efficacy and toxicology studies, or enhancing your understanding of cancer biology pathways, we have a wide range of solutions to help bring about your next cancer breakthrough.

Our *in vivo* imaging solutions for cancer include:

- 2D bioluminescence and fluorescence and 3D optical tomography systems with spectral unmixing capabilities
- High-resolution, low-dose microCT imaging to evaluate anatomical changes related to cancer biology
- Luciferase-labeled oncology cell lines and bioluminescent substrates for early detection and tracking of cancer growth and metastasis
- Lentiviral particles to generate your own bioluminescent cancer cell lines
- Fluorescent agents, labeling kits, and dyes for imaging cancer and inflammation-related biomarkers and pathways

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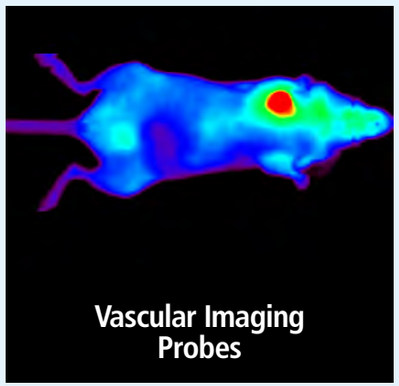

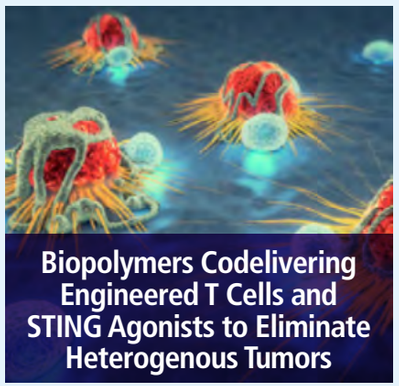

UNLOCKING DATA TO REVEAL PRECISION THERAPIES

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Precision medicine means getting the right drug to the right patient at the right time. To deliver on the promise of precision medicine, scientists are using molecular profiling and biomarkers to improve patient stratification in clinical trials and achieve better health outcomes for cancer patients.

By integrating translational data with clinical data, scientists hope to select the right trial subjects and identify novel applications for approved compounds. But accessing, integrating, and analyzing clinical trial data can be laborious and time-consuming. We're helping cancer researchers aggregate and compare multiple clinical studies at once and identify biomarkers with the advanced informatics and analytics tools that allow you to:

- Acquire and analyze data quickly and intuitively
- Gain biomarker-based insights faster
- Make informed decisions earlier in the drug development process

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Click to learn more about our cancer research solutions.

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