TRANSFORMING **DRUG DEVELOPMENT**

Select the Right Solutions for
Every Step of the Development Process

PerkinElmer®
For the Better

DRUG DEVELOPMENT MADE MANAGEABLE

In every stage of the drug development process, we enable our pharmaceutical partners to rapidly develop and commercialize new small- and large-molecule entities across a wide variety of therapeutic areas. How? With the industry's most comprehensive and innovative line of instrumentation, software, reagents, and consumables, as well as state-of-the-art informatics and services that keep our customers compliant throughout the development process.

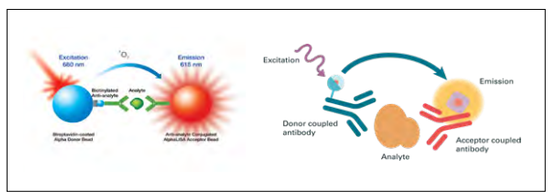
- Biochemical and Cellular Assays
- High-Content Cellular Imaging
- *In Vivo* Imaging
- CMC Testing
- Informatics
- Compliance

WHERE ACCURACY AND RELIABILITY COME TOGETHER

A Comprehensive Range of Assays and Reagents

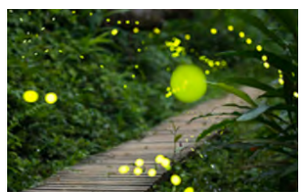
Speed up your workflow with our comprehensive portfolio of immunoassay and luminescence technologies, delivering consistent, accurate, and physiologically relevant results. Whatever platform you choose, these assays provide a wider dynamic range and greater sensitivity compared to traditional methods.

In addition to immunoassay and luminescence technologies, we also offer radiochemical custom synthesis, including custom radiolabeling and radiosynthesis (non-GMP and GMP* for preclinical and clinical studies).



IMMUNOASSAY PLATFORMS

Our no-wash Alpha, HTRF®, and LANCE® Ultra™ TR-FRET technologies offer simple, straightforward homogeneous workflows, while our DELFIA® TR technology delivers advantages over traditional ELISAs but maintains the wash steps.



LUMINESCENCE ASSAYS

Reporter Gene and ATP-monitoring assays allow for high-sensitivity luminescence detection in a convenient format.

RADIOCHEMICAL CUSTOM SYNTHESIS*

In addition to our radiochemical custom synthesis solutions, we also provide GMP custom services to help you meet the escalating GMP requirements in APIs for use in clinical trials.

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*ICH Q7 Section 19 compliant

Multimode Plate Readers

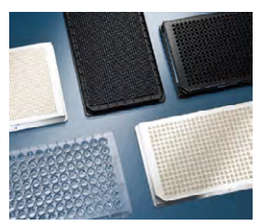
Our comprehensive array of multimode plate readers and FDA 21 CFR Part 11 compliant software gives pharmaceutical researchers the tools and technologies to develop more physiologically relevant insights, which lead to better-informed decisions.

VICTOR® Nivo™ ▶

Including all major detection technologies in the industry's smallest benchtop plate reader, it's ideal for biochemical and cell-based assays to bring therapeutic treatments to market.

EnVision® ▶

Providing exceptional speed and maximum sensitivity across all detection technologies, it's a great solution for pharmaceutical labs needing higher throughput and better performance.



Microplates ▶

An important component of assays, microplates comprise a key miniaturization format, enabling reagent cost reduction as well as high throughput.

Read More About It

VICTOR® Nivo™ Software ▶

EnVision Software ▶

SHORTEN TIME TO CLINIC WITH CELLULAR AND ANIMAL MODELS

In vitro and *in vivo* tests are used for evaluating drug candidate safety and efficacy prior to human clinical trials, providing critical information on a compound's biological effects at this early stage in drug development.

Challenges in preclinical development:

- Model systems don't always accurately predict the effects of drug candidates in humans, leading to high attrition rates
- Increased pressure to save time and money while delivering efficiency and productivity
- Adherence to the 3R principal for animal testing – reduce, refine, replace

Visualizing and evaluating drug effects at the cellular level or in the context of an animal model can provide valuable information on efficacy, biodistribution, toxicity, and safety, enabling you to de-risk candidates and support go/no go decisions early in the drug development process.

Biochemical and Cellular Assays

High-Content Cellular Imaging

In Vivo Imaging

CMC Testing

Informatics

Compliance

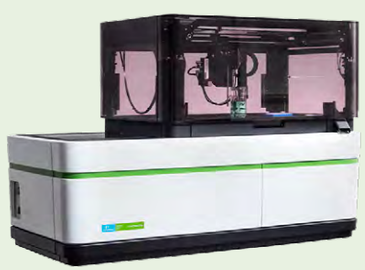
High-Content Cellular Imaging

Combining high-throughput automated cell imaging and analysis to extract quantitative multiparametric data at the single-cell level, high-content cellular imaging provides information on the spatial distribution and dynamics of responses.

- *In vitro* toxicology, used to assess general cytotoxic effects such as genotoxicity, cardiotoxicity, nephrotoxicity, phospholipidosis, steatosis, and cholestasis
- Uses physiologically relevant model systems such as spheroids, organoids, microtissues, organ-on-a-chip, offering greater physiological relevance
- Runs at higher throughput and uses smaller amounts of compounds than traditional techniques

Learn more about our HCS systems and image analysis software

Operetta CLS High-Content Analysis System



Opera Phenix® Plus High-Content Screening System

READ MORE ABOUT IT

High-Content Screening for *In Vitro* Toxicity Testing

High-Content Screen Applications in Toxicology

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In Vivo Imaging

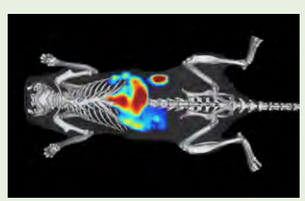
Delivering fast, longitudinal, real-time quantitative assessment of drug candidates, noninvasive *in vivo* imaging enables physiological assessment, including:

- Biodistribution and dosing strategies
- Efficacy and off-target effects
- Drug safety and toxicology
- Pharmacokinetic and pharmacodynamic (PK/PD) profiles in the context of the whole animal
- Longitudinal studies providing quantitative intrasubject comparisons, enhancing the statistical power of data

Multiparametric data points from fewer subjects enable reduction in animal usage, streamlining drug assessment and lowering costs.

Learn more about our *in vivo* systems and reagents

IVIS® Lumina X5
Optical Imaging System



Drug-induced toxicity using Annexin-Vivo™ fluorescent probe. Imaged on IVIS Spectrum system.

READ MORE ABOUT IT

In Vivo Imaging Solutions

In Vivo Imaging in Drug Discovery and Development

In Vivo Solutions eBook

QUALITY IS KEY IN CMC TESTING

Information about the chemistry, manufacturing, and controls (CMC) used for manufacturing drug substances and products can help ensure that pharmaceutical companies can adequately produce and supply consistent batches of drugs for clinical trials. Subsequently, they can guarantee the supply of raw materials (API and excipients) and final drug product (or finished dosage form) in accordance with GMP regulations.

Pharmaceutical companies are concerned with continuity and project management planning to ensure the availability of backup raw material suppliers, as well as a selection of appropriate CMO/CDMO partners, to comply with internal regulatory requirements. They also need to establish agreements with outsource partners, and regularly audit external sites for materials and data security.

Challenges in CMC testing include:

- Ability to reproduce analytical methods for API and excipient assays and control of impurities
- Guaranteeing data governance and integrity, from manufacturing to batch release
- Need to produce consistent batches for use in clinical trials
- Accurately characterizing API and excipients
- Ensuring GMP compliance

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CMC Testing Solutions

We offer key solutions, from analytical instrumentation to our unique OneSource® service and support, to enable pharmaceutical manufacturers to stay compliant with each step of CMC testing.
Click on the photos below to learn more about our solutions.

Regulatory and Compliance

Drug Substance and Excipients

Drug Product Testing

Control of Impurities

Stability Testing

Biologics/ Biotherapeutic Solutions

Consumables

TURNING DATA INTO INSIGHTS

Drug development produces immense amounts of data at every step of the workflow, all of which requires management and interpretation if it's to help ensure better decision making downstream.

What's more, laboratory information technology and data complexities combine to create a higher demand for a knowledge base, while the absence of a highly skilled workforce can increase development costs and introduce risks.

Challenges for IT departments include:

- Availability and maturity of technology development as well as accessibility to current tools and systems
- Increased pressure to save time and money while delivering efficiency and productivity
- Availability of appropriate and next-gen technologies such as phenotypic models, analytical tools, consumables, and systems integration (automation and connectivity)
- Need for data management and connectivity; data acquisition, analysis, and interpretation/visualization; and platform normalization and synchronization
- Collaboration of skilled personnel across biochemical, analytical, and informatics IT functions through cross-platform project management

Biochemical and Cellular Assays

High-Content Cellular Imaging

In Vivo Imaging

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Informatics Solutions

Our informatics solutions empower customers to gain critical insights from data analytics, accelerating informed decisions. Unify data and fast-track activities across R&D, translational research, and clinical trial operations. *Click on the photos below to learn more about our technologies and solutions.*

ChemDraw®

E-Notebook

TIBCO Spotfire®

COMPLIANCE MADE COMPREHENSIBLE

Navigating the complexities and requirements of global regulatory entities can be difficult, and the penalties of noncompliance – lost time, staff attrition, fines, recalls, and worse – can cripple even the best-run laboratories. But compliance services from a trusted vendor free up pharmaceutical labs to concentrate on research and development while meeting business and regulatory objectives.

Challenges for Regulatory and Compliance departments include:

- Availability of instruments and software for 21 CFR Part 11 Compliance
- Commissioning of new instrumentation through computer system validation (CSV)
- Data management risks and data integrity compliance
- Compliant lab infrastructure
- Internal teams with comprehensive compliance knowledge and execution strategy

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Service and Compliance Solutions

OneSource® Compliance Services help pharmaceutical companies address their challenges with a full suite of services and products, including system commissioning, qualification, and computer system validation services. Organizations can rely on a trusted consultant with real expertise in qualification, requalification, risk management, remediation, and more. *Click below to learn more about our compliance services and solutions.*

OneSource® Laboratory Services

Data Integrity, Computer Validation Systems, Instrument Qualification (IQ/OQ/PQ/UOQ)

Syngistix™ Atomic Spectroscopy Software for 21 CFR Part 11 Compliance

Pyris™ Thermal Analysis Software for 21 CFR Part 11 Compliance

Multimode Plate Readers and Enhanced Security Software that enable 21 CFR Part 11 Compliance

LabChip® GXII Touch™ and Reviewer Software for 21 CFR Part 11 Compliance

For more information, please visit www.perkinelmer.com/uk/category/drug-discovery-development

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