



# Bioanalysis – Discovery, Preclinical and Clinical

We know you need comprehensive bioanalytical support at every stage of your product's development, from discovery to preclinical studies and all phases of clinical development. The experienced scientists at Charles River develop, validate and apply quantitative methods for the determination of pharmaceutical compounds ranging from small molecules to larger proteins, giving you the exact bioanalytical support you need to quickly and efficiently progress your product.

Our laboratories have the latest analytical equipment to measure drug and metabolite concentrations in biological matrices such as plasma, serum, CSF, urine and tissues, using a wide range of techniques and technology platforms. This variety of advanced equipment ensures that we have the capacity to support you with rapid lead-in times in order to meet critical deadlines.

All studies are supported by a validated Watson™ Laboratory Information Management System (LIMS). This brings a number of benefits, the most significant being improved efficiencies in the collation and reporting of data.

## Immunochemistry

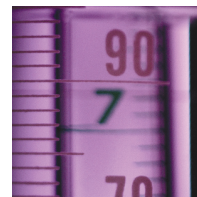
Our Immunochemistry departments provide bioanalytical support by analyzing large-molecule test articles and endogenous compounds using methods that have been fully validated in-house. Different assay formats are re-optimized to eliminate non-specific binding and other side reactions. Charles River produces its own tracers and conjugates as reagents, and therefore has the capability of developing assays to fulfill your requirements.

## Synthetic Chemistry

To assist in quantitative bioanalysis, our chemical synthesis group can produce non-labeled or stable isotope labeled compounds, such as deuterated or carbon-13 analogues, for use as internal standards. They can also assist with metabolite identification, profiling and synthesis.

## Available Technologies

- 96-well plate automated sample extraction
- High-throughput microcolumn analysis
- Liquid chromatography/tandem mass spectrometry (LC-MS/MS)
- Liquid chromatography/mass spectrometry (LC-MS)
- Gas chromatography mass spectrometry (GC-MS)
- High performance liquid chromatography (HPLC)
- Gas chromatography (GC)
- Capillary electrophoresis (CE)
- Atomic absorption spectroscopy (AAS) for measurement of total metal content
- Fourier transform infrared spectrometry (FTIR)
- Karl Fischer
- Immunoassays
  - Enzyme-linked immunosorbent assay (ELISA)
  - Radioimmunoassay (RIA)
  - Enzyme immunoassay (EIA)
  - Fluorescence immunoassay (FIA)
  - Immunoradiometric assay (IRMA)
  - Dissociated enhanced lanthanide fluorescence immunoassay (DELFLIA)
  - Luminex technologies
  - Scintillation proximity assay (SPA)
- Hybridization assays for oligonucleotides



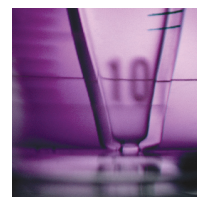
## Non-GLP Discovery Bioanalysis

Charles River's dedicated discovery groups excel in conducting discovery studies ranging from rapid pharmacokinetic screening and bioanalysis to lead optimization toxicology. Our commitment to providing you with the data you need has resulted in a range of specific discovery bioanalytical products. These research grade assays (RGAs) have been developed and optimized to yield defined quality and rapid turnaround of analytical data for discovery programs.



## Benefits of the Charles River Approach

Dedicated method development teams are able to rapidly evaluate and develop assays for you, and all our facilities provide exceptional quality, high sample throughput and on-time reporting. Our firsthand knowledge in the development of a wide range of compounds and our experience across the drug development continuum can be used to help you create an efficient, successful program from discovery through clinical pharmacology. As one of the largest service providers in the industry, Charles River offers a broad technical portfolio of essential laboratory services around the world, bringing responsiveness and innovation to the pharmaceutical, biotechnology and healthcare industries.



Accelerating Drug Development. Exactly. Charles River provides essential products and services to help pharmaceutical and biotechnology companies, government agencies and leading academic institutions around the globe accelerate their research and drug development efforts. Our approximately 9,000 employees worldwide are focused on providing clients with exactly what they need to improve and expedite the discovery, development through first-in-human evaluation and safe manufacture of new therapies for the patients who need them.

