

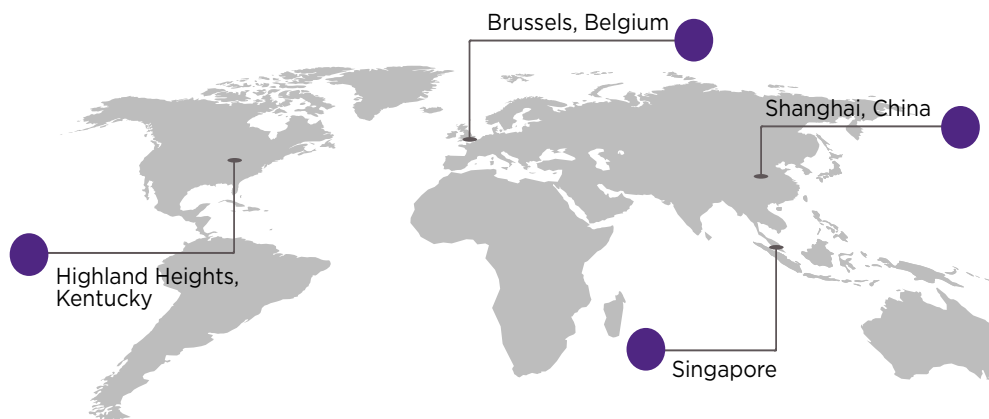
Central Lab Overview

High-quality data and service without compromise

PPD® LABORATORIES

PPD® Laboratories Central Lab is dedicated to helping our customers make **better, faster decisions** about their clinical trials through a robust testing menu, consistent results and innovative data solutions.

PPD Laboratories supports customers programs where they need us, when they need us with four wholly owned laboratories in the U.S., Europe, Singapore and China that maintain a robust roster of accreditations.



Central lab services to meet your testing needs

- Anatomic pathology*
- Autoimmune, inflammatory and allergy testing
- Cell-based assays and flow cytometry
- Chemistry and immunoassays
- Chromatography and mass spectroscopy
- Genomics and molecular assays
- Hematology and coagulation
- Microbiology
- Protein analysis
- Urinalysis

*Provided through PPD Laboratories' strategic alliance with NeoGenomics

Preclarus® lab solutions to streamline your clinical trial

- **Central lab database:** Our proprietary enterprise and information management system is purposefully designed to manage every aspect of a central lab clinical trial
- **Investigator site portal:** Secure clinical site access to manage study activities (e.g. sample/subject registration, kit supply ordering and query resolution) and provides 24\7 access to real time data for investigators
- **Lab data portal:** Secure access for customer project teams to real-time, studywide data including the ability to visualize, organize search and manage lab data
- **3PL (third-party lab) portal:** Allows customers to track their specimens and results at partner labs
- **PM (project management) dashboard:** Real-time access for PPD project teams to program, region, site level data (labs results, quality data, budget)

PPD Laboratories has been integrating lab and clinical data in near real time for more than 10 years and has the shortest study start up timelines in the industry.

Discipline/Methodology	Example Biomarkers/Assays		Key Instrumentation/Platform
Anatomic Pathology	<ul style="list-style-type: none"> Histological services Grossing, embedding, microtomy Immunohistochemistry (IHC) 	<ul style="list-style-type: none"> H&E, special stains and IHC stains Digitization of prepared specimens Sample interpretive reporting customized to meet client requirements 	<ul style="list-style-type: none"> Thermo Scientific™ HistoStar™ Embedding Workstation Leica® RM2245 Microtome Leica® ST5020 Multistainer Ventana® BenchMark ULTRA Aperio® AT2 Digital pathology scanner
Autoimmune/Inflammatory/Allergy	<ul style="list-style-type: none"> Rheumatoid factor Autoantibodies Complement Interferon 	<ul style="list-style-type: none"> Free light chains Interleukins Serum IgE 	<ul style="list-style-type: none"> Thermo Scientific Phadia® 1000 Siemens Healthcare BN™ II Beckman Coulter Access 2 DiaSorin Liaison
Cell-based Assays/Flow Cytometry	<ul style="list-style-type: none"> PBMCs Immune response T-reg assays CD 3, 4, 8, 25, 19, 20, 39, 127, etc. 	<ul style="list-style-type: none"> Cell enumeration Cell surface assays TBNK panel MDSC - myeloid derived suppressor cells 	<ul style="list-style-type: none"> BD FACSCanto™
Chemistry/Immunoassay	<ul style="list-style-type: none"> Bone markers Diabetes Toxicology Endocrinology Metabolic Infectious diseases 	<ul style="list-style-type: none"> Cardiac markers Drugs of abuse Oncology Routine chemistry Liver function COVID-19 antibody testing 	<ul style="list-style-type: none"> Roche Cobas® 6000 and 8000 Beckman Coulter Access ADVIA Centaur XP Immunoassay System DiaSorin Liaison®
Chromatography/Mass Spectrometry	<ul style="list-style-type: none"> Amino acids Nutritional (vitamins) 	<ul style="list-style-type: none"> Diabetes (hemaglobin A1C) Bone markers (vitamin D) 	<ul style="list-style-type: none"> Waters Acquity Sciex 4000™, 5000™, 6500™ triple quadrupoles Agilent 5975 Turbo System GCMS Waters Xevo® Tosoh G8 HPLC Analyzer
Genomics/Molecular	<ul style="list-style-type: none"> RNA/DNA (extraction, quantitation, concentration, purity, etc.) SARS-CoV-2 RT-PCR 	<ul style="list-style-type: none"> Infectious diseases (HBV, HCV, HIV viral load) 	<ul style="list-style-type: none"> Roche MagNA Pure LC 2.0 Roche Cobas® Ampliprep Roche Taqman® Lightcycler 2.0 Abbott Molecular m2000 RealTime System bioMérieux NucliSENS® easyMag®
Hematology/Coagulation	<ul style="list-style-type: none"> Clotting time studies D-dimer 	<ul style="list-style-type: none"> Factor evaluations CBC and differential 	<ul style="list-style-type: none"> IL ACL Top® 500 Beckman Coulter® LH 750
Urinalysis	<ul style="list-style-type: none"> Automated particle recognition (casts, crystals, cells etc.) 	<ul style="list-style-type: none"> Dipstick testing (ketone, protein, bilirubin etc.) 	<ul style="list-style-type: none"> Iris® iQ200™ and iChem® Velocity™ Siemens CLINITEK Atlas®
Microbiology	<ul style="list-style-type: none"> Bacteriology 		<ul style="list-style-type: none"> Beckman Coulter MicroScan Walkaway® Plus Dupont RiboPrinter®
Protein Analysis	<ul style="list-style-type: none"> Lipoproteins C-reactive protein HDL, LDL, VLDL and ratios 	<ul style="list-style-type: none"> Triglycerides Protein electrophoresis 	<ul style="list-style-type: none"> Roche Cobas® 8000