



Global Genomics Laboratory Capabilities

Q2 Solutions offers a range of genomic laboratory services to support drug discovery, precision medicine and clinical development. Our industry-leading team advances research by delivering scientific insights that help clients maximize the value of their data.

Q2 Solutions Genomics has four laboratory locations:

RTP, North Carolina, USA



Beijing, China



Edinburgh, Scotland



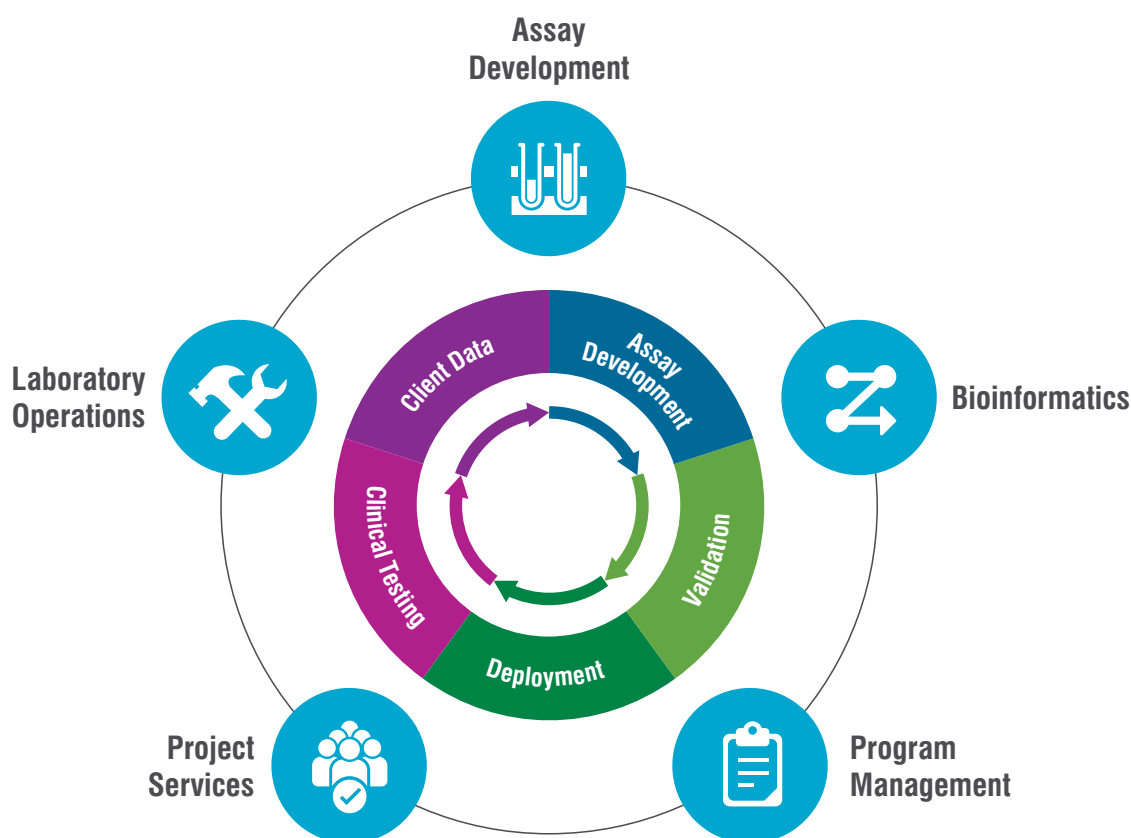
Singapore



Service	Capability	Location availability			
		USA	China	UK	Singapore
Anatomic pathology	<ul style="list-style-type: none"> Fresh tissue and FFPE capabilities H&E creation/assessment and digital slide imaging available Pathologists onsite 	☑	☑	☑	☑
Isolations	<ul style="list-style-type: none"> DNA and RNA extraction capabilities from a large spectrum of original material, including FFPE, blood, tissue, cells, plasma, and saliva 	☑	☑	☑	☑
Whole human genome sequencing	<ul style="list-style-type: none"> Optimized method for FFPE and intact material, using low input and minimal amplification Illumina NovaSeq system available 	☑	☑	☑	
DNA exome sequencing	<ul style="list-style-type: none"> Low input procedure optimized for intact and FFPE material Flexible hybridization method that allows for use of various standard and customized ROI probe sets Illumina NovaSeq system available 	☑	☑		
RNA sequencing	<ul style="list-style-type: none"> Globin removal method to remove globin mRNA from blood Library preparation from both intact and degraded RNA from FFPE, blood, tissue, and cells Hybridization-based method targeting the human transcriptome Poly-A selection method for intact material Ribosomal RNA depletion method for degraded and non-coding RNA Illumina NovaSeq system available 	☑	☑	☑	
Targeted sequencing	<ul style="list-style-type: none"> Library preparations from RNA/DNA from FFPE, blood, tissues, cells, and plasma Hybridization-based methods targeting different panels of interest NovaSeq system 	☑	☑	☑	
Thermo Fisher sequencing	<ul style="list-style-type: none"> Manual and Genexus library preparation with various panels Customizable with DNA, RNA, or simultaneous profiling available Genexus, Ion Chef, S5 XL and PGM Dx platforms available 	☑	☑	☑	☑
Single cell RNA sequencing	<ul style="list-style-type: none"> Simultaneous analysis of the transcriptome and cell surface proteome Various assays including immune repertoire, surface protein profiling, and single-nucleus 10X Chromium and Illumina NovaSeq systems available 	☑			
Spatial RNA and protein profiling	<ul style="list-style-type: none"> Customizable, spatially restricted hybridization- and antibody-based RNA and protein quantification, respectively Immunofluorescence-guided cell selection and stratification performed by qualified pathologists Targeted NanoString nCounter or whole transcriptome (i.e., 18,000+ protein-coding genes) Illumina next-generation sequencing readouts available 	☑			
PCR assays	<ul style="list-style-type: none"> Customizable probe amplification assays for different targets of interest Multiple platforms for expression profiling, genotyping, and copy number analysis ddPCR and qPCR systems available Fluidigm system available at USA site 	☑	☑		
NanoString nCounter panels	<ul style="list-style-type: none"> Probe Hybridization based capture, RNA copies counted by nCounter No amplification required Customizable Up to 800 targets in a single reaction 	☑	☑		
Bioinformatics	<ul style="list-style-type: none"> A range of analyses to support all service lines Custom analysis and algorithm development including biostatistics support Standard pipeline analysis available globally (including China) 	Centralized in RTP			

Bespoke assay development support

Subject matter experts and years of experience at every step



ASSAY DEVELOPMENT

- 20+ team of scientists with years of expertise in the genomics field
- Experience with wide range of technologies and platforms with hundreds of bespoke assays developed
- In-depth consulting to ensure best approach for clinical study
- Fit-for-purpose validation regulation up to CLIA standards

BIOINFORMATICS

- 30+ team of bioinformaticists, biostatisticians, analysts, and developers with years of expertise
- Broad application support and consulting from PhD-level staff
- Dedicated software development team to engineer and validate analysis pipelines
- Aid in the transition from discovery protocols and platform to the validated platform

PROGRAM MANAGEMENT

- Experienced Project Manager assigned to all assay development and validation projects
- Coordination across multiple teams to mitigate risk and maintain project scope
- Primary point of contact between scientific team and clients to ensure efficient communication

PROJECT SERVICES

- Project Manager assigned to all clinical sample testing studies
- Proactive monitoring of global study timelines and sample shipments
- Point of contact between clinical operations and client to streamline communication

LABORATORY OPERATIONS

- CLIA/CAP certified laboratory space that is specifically designed to support end-to-end genomic testing workflows
- 70+ trained technical operators globally with experience processing various sample types, assays, and technologies
- Industry competitive standard turnaround times and fast turnaround times available to meet specific testing needs
- Robust sample management systems and workflows to support end-to-end sample chain of custody
- Incorporated Lean Six Sigma training for all employees to drive continuous operational improvement, efficiencies and increased quality across organization

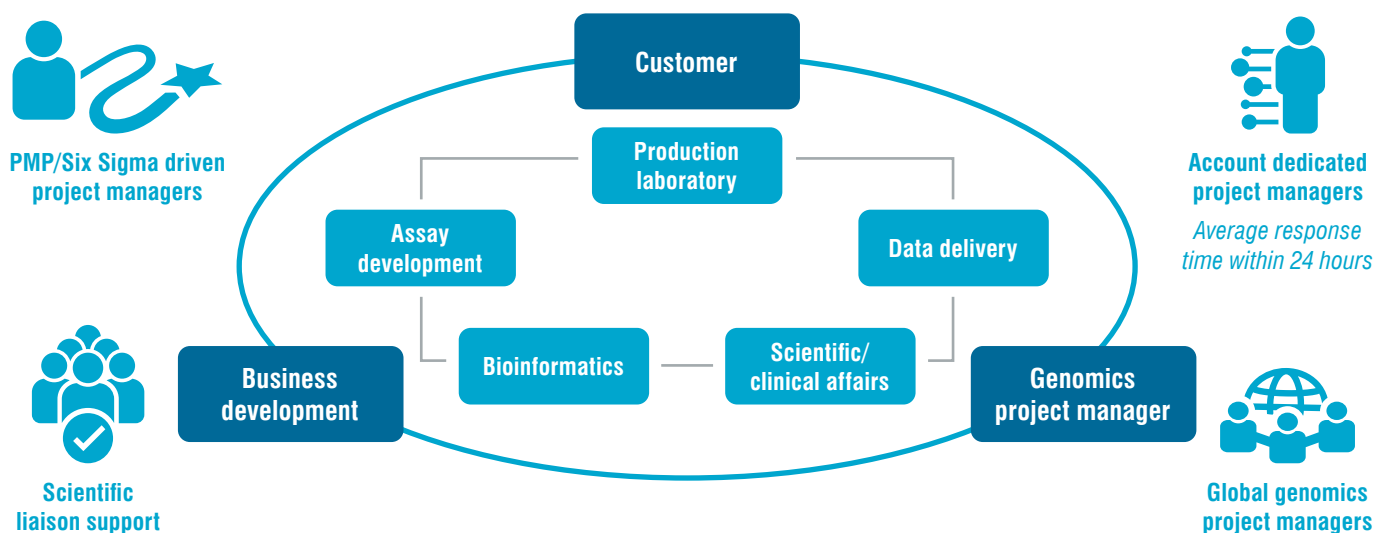
Harmonization of procedures

Methods	Training
<ul style="list-style-type: none"> All methods are developed at our Genomics Center of Excellence by our Translational Assay Development team and subject matter experts. Following development, methods are validated in place by subject matter experts at each global site, as necessary. Bioinformatics IT infrastructure and analysis pipelines standardized across regions to ensure reproducible results. 	<ul style="list-style-type: none"> Subject matter experts will train local staff at each global site in person or remotely, following defined training plans using samples that represent expected sample types for the validated assays. Training results are reviewed by qualified trainers and the laboratory director to ensure operator results are consistent with expected results. If needed, subject matter experts will travel to the global site for a more in-depth training.
Documentation, equipment, procedures	Assay development & validation
<ul style="list-style-type: none"> Procedural documentation standardized across all sites and managed through standard document management program. All equipment goes through a fit-for-purpose qualification program to ensure the equipment meets expectations of its intended use. 	<ul style="list-style-type: none"> Assays are validated at each site. Any adjustments or redevelopments to assays will be done prior to release globally and ensuring that changes are able to be made applicable at all sites. New equipment is deployed as needed and qualified for use prior to method release. We are able to quickly facilitate tech transfer based on needs of our clients.

Global project management

Each trial is assigned a global project manager for client alignment. Project managers serve as the single point of contact for the client and communication liaison for all stakeholders and contributors and as a link to Q² Solutions subject matter experts.

- We are committed to the establishment and nurturing of client relationships by forming account teams composed of business development representatives and project management professionals.
- The team is comprised of individuals with a breadth of industry experience coming from genomics, quality, pharmaceutical development and discovery, and healthcare.
- Project managers are either PMP certified or working towards the certification through continuing education.



Regulatory standards

Our Quality Management System (QMS) is based upon the standards set forth in Good Clinical Practices (GCP), College of American Pathologists (CAP) and Clinical Laboratory Improvement Amendments (CLIA).

CAP	CAP Accreditation since 2017
CLIA USA only	CLIA Certified since 2010
GCP	Q ² Solutions maintains a QMS that is compliant to the applicable Good Clinical Practices for clinical and genomic testing conducted
NYS USA only	NYS certified since 2018



100,000
samples isolated and
sequenced annually

75+
assays

40+
sequencing platforms
in operation globally

90+
bioinformaticians and
software developers

To learn more about our clinical genomics services, please visit www.Q2LabSolutions.com/genomics-laboratories

Contact us

Toll free: +1 855.277.9929

Direct: +1 919.998.7000

International: +44 (0) 1506 814000

Website: www.Q2LabSolutions.com

