


## Oncology solutions: Development support across the life cycle

Q<sup>2</sup> Solutions is an oncology development partner that understands the complexity of cancer – including the underlying biologic processes and clinically relevant lab technologies required for delivering valuable insights to shape better outcomes. With industry-leading expertise and innovative end-to-end lab services, Q<sup>2</sup> Solutions can support your oncology research from discovery to post-market.

### 32 in-house pathologists with extensive molecular and anatomic pathology expertise

- Safety testing
- Anatomic and molecular pathology (IHC, ISH)
- Immunoassay
- Flow cytometry
- Genomics
- Circulating tumor cells
- CTLA4 and PD-1/PD-L1 immuno-oncology expertise and more

Learn more at [www.Q2LabSolutions.com/central-laboratories](http://www.Q2LabSolutions.com/central-laboratories)



### Access to 7 CAP-accredited Central Laboratories

We offer **bioanalytical**, **immunogenicity (ligand binding)**, **ADME** and **specialty genomics (NGS, RNASeq) labs** plus support for **companion diagnostics** studies for precision medicine.



Q<sup>2</sup> Solutions helped develop **93%** of the Top 30 best-selling oncology products of 2016

Q<sup>2</sup> Solutions helped develop many **biomarkers** used today including BCR-Abl, ALK, BRAF, C-KIT, EGFR, KRAS, HER2, MET, PD-L1

**>100** companion diagnostics development engagements

Q<sup>2</sup> Solutions has helped develop **54%** of all FDA-approved oncology precision medicine drugs since 2014

Q<sup>2</sup> Solutions has helped develop **61%** of all FDA-approved oncology pharmacogenomics products to date

Q<sup>2</sup> Solutions helped develop **56%** of oncology biologic drugs since 2011

Since 2011 we've provided services for



**>890** oncology studies in **73 countries**



involving **>155,000** patients

## A broad test menu including safety, esoteric and custom assays to meet the demands of your clinical program

Discipline	Methodology	Example biomarkers /assays
<b>Safety testing hematology/ coagulation, special chemistry/ urinalysis</b>	<ul style="list-style-type: none"> <li>Enzymatic analysis</li> <li>Colorimetry</li> <li>Turbidimetry</li> <li>Spectrophotometry</li> <li>Automated cell counting</li> <li>Leukocyte differential counting</li> <li>Conductivity and light scatter</li> <li>Chromatography</li> <li>Clotting time</li> </ul>	<ul style="list-style-type: none"> <li>Routine chemistry (including serum factors for TLS)</li> <li>Renal functions (eGFR, creatinine, cystatin C)</li> <li>Hepatic function (ALT/AST)</li> <li>Urinalysis</li> <li>Endocrinology</li> <li>Thyroid functions</li> <li>CBC</li> <li>WBC differential</li> <li>Reticulocytes</li> <li>HbA1c</li> <li>Prothrombin time, aPTT, Fibrinogen</li> <li>D-dimer, proteins S and C</li> <li>Von Willebrand factor</li> </ul>
<b>Anatomic and molecular pathology</b>	<ul style="list-style-type: none"> <li>Tissue processing (FFPE, TMAs)</li> <li>Confirmatory diagnosis</li> <li>Immunohistochemistry, including immune score, H score, tumor proportion scores, assay specific scoring algorithm</li> <li>ISH/FISH/Dual ISH</li> <li>Molecular mutation assays</li> <li>Digital pathology, telepathology, image analysis, image repository, remote access</li> <li>Special stains</li> <li>Companion diagnostics</li> </ul>	<ul style="list-style-type: none"> <li>Lung panel (ALK, EGFR, MET)</li> <li>Breast panel (ER, PgR, Her2, Her3, pEGFR, pHer2, pHer3, PTEN)</li> <li>Lymphoma panel: CD20, CD45, CD3, CD5, CD23, CD10, BCL2, MUM1, Ki67)</li> <li>PD markers: pRb, pAKT, pERK</li> <li>ISH/FISH/Dual ISH assays: ALK, Her2 (breast and gastric carcinoma), EGFR, PIK3CA, CLL panel, FGF19, FGFR1/EBER ISH, MET Dual ISH, HPV CISH</li> <li>Mutations: PIK3CA, EGFR, HGF, ROS1, KRAS, BRAF</li> </ul>
<b>Immunoassay</b>	<ul style="list-style-type: none"> <li>Manual or automated ELISA</li> <li>Multiplex ELISA (bead-based detection, biochips), including ultra low-volume, low-level detection (fmol range)</li> </ul>	<ul style="list-style-type: none"> <li>Immunogenicity assays</li> <li>Soluble tumor antigens (CA-125, CA-15-3, CA-19, CEA, HE4)</li> <li>Inflammatory and angiogenesis panels (e.g., IFN<math>\alpha</math> TNF-<math>\alpha</math>, IL1<math>\beta</math> IFN<math>\gamma</math>, VEGFs, Ang-2, etc.)</li> <li>Oncoproteins/ligands: HGF, FGFs, SCF, neuregulins, soluble receptors (VEGFR, FGFRs, sHER2)</li> </ul>
<b>Flow cytometry</b>	<ul style="list-style-type: none"> <li>Light scatter and cellular fluorescence, including 10-color cytometers</li> </ul>	<ul style="list-style-type: none"> <li>MRD Panels (CLL, in vitro cytotoxicity)</li> <li>B lymphocyte clonality (<math>\kappa/\lambda</math>)</li> <li>Immunophenotyping (T cell subsets – effector, memory, regulatory, Th17, Th1, Th2, T regs; MDSCs; B cell subsets – plasma cells, activation)</li> <li>Functionality and signaling: phosphoflow and cytokine secretion</li> </ul>
<b>Genomics</b>	<p>Next-generation sequencing (from blood, bone marrow, FFPE, or frozen tissue)</p> <ul style="list-style-type: none"> <li>Bioinformatics and pipeline development</li> <li>Genotyping</li> <li>Microarrays</li> <li>CLIA NGS panels</li> </ul>	<ul style="list-style-type: none"> <li>Digital PCR and high multiplex gene expression (e.g. Nanostring)</li> <li>RNA sequencing</li> <li>Targeted exome sequencing</li> <li>DNA methylation analysis</li> <li>miRNA sequencing</li> <li>Targeted gene sequencing (e.g., AmpliSeq Cancer Panel 2.0)</li> <li>Q<sup>2</sup> Solutions Comprehensive Cancer Panel</li> </ul>

### About Q<sup>2</sup> Solutions

Launched in 2015, Q<sup>2</sup> Solutions is a leading global clinical trials laboratory services organization. We help biopharmaceutical, medical device and diagnostics customers improve human health through innovation that transforms science and data into actionable medical insights. Q<sup>2</sup> Solutions is a quality driven, responsive partner with strong global experience and deep scientific and medical expertise. The Q<sup>2</sup> Solutions joint venture was formed by QuintilesIMS and Quest Diagnostics, combining the best of each parent organization's clinical trials laboratory services capabilities.

### Contact us

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