CROWN BIOSCIENCE

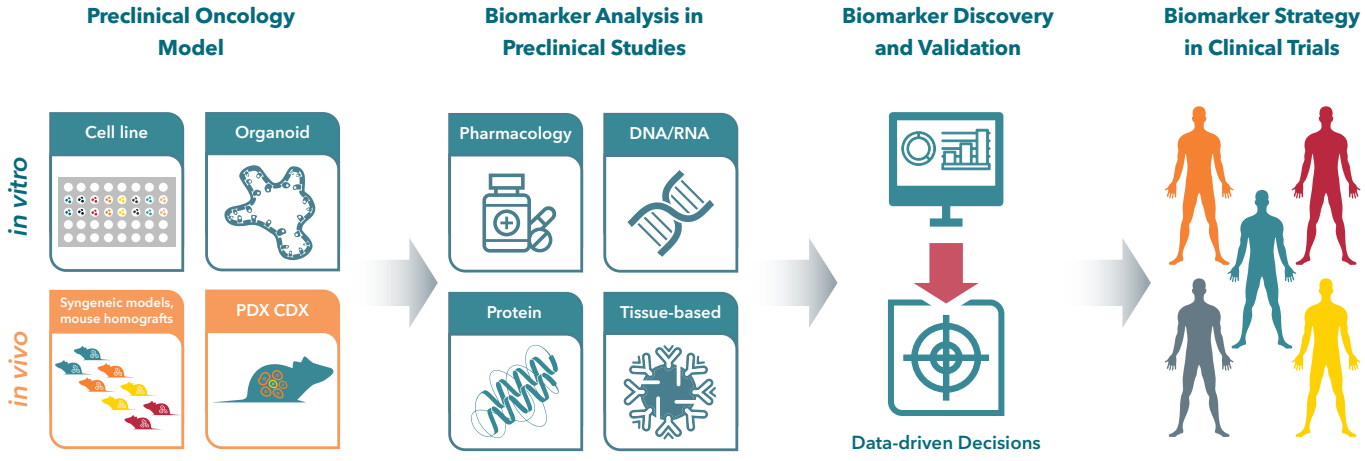
FACTSHEET

Preclinical Biomarker Discovery

Preclinical biomarker discovery strategies help identify potential therapeutic targets, assess the safety and efficacy of new compounds, identify patient subgroups likely to respond to a particular therapy and inform clinical trial design. When incorporated early into preclinical studies, these strategies can play a key role in reducing the time and cost of drug development.

Leverage our services to make informed decisions:

- Large collection of *in vivo* and *in vitro* preclinical models and screening services
- Comprehensive multi-omics biomarker analysis
- Complementary databases featuring baseline profiling and historical data from our in-house models
- Experimental design support
- Powerful bioinformatics capabilities to maximize the value of your data



Biomarker Discovery Via *In Vitro* Screening

Harness efficient *in vitro* screening to explore drug mechanisms of action (MoA), identify genetic traits linked to drug response, develop biomarkers, and inform *in vivo* model selection.

Cell line and organoid collections: Over 500 validated cell lines and the only CRO service provider of adult stem cell-derived organoids for oncology research.

Cancer Cell Panel Screening Service:

- Large-scale, well-validated cell panel screening
- Focused panels by cancer type, mutation, or matched *in vivo* models
- Quarterly enrollment with cost-effective inclusion of positive drug controls

Organoid**Xplore™ Advanced Screening Service:**

A high-throughput organoid screening platform processing 100+ patient-derived organoid (PDO) and PDXO models within six weeks. Features include:

- Genetically diverse, assay-ready models
- Predefined or customizable screening panels
- Matched normal/disease pairs for comparative analysis
- Availability of corresponding *in vivo* PDX models

Organoid**Xplore™** enables rapid, data-driven preclinical decisions to accelerate drug discovery and biomarker development.

Biomarker Discovery Via *In Vivo* Screening

In vivo screening using mouse models can mimic phase II clinical trials, enabling robust assessment of drug efficacy and supporting biomarker discovery through innovative study designs.

Animal model collection: World's largest commercial collection of patient-derived xenografts (PDX) models, cell line-derived xenografts (CDX), syngeneic models, humanized models, immunocompetent chimeric mouse models, tumor homografts, and more.

***In vivo* screening via mouse clinical trial:** Preclinical population studies that help stratify patients for clinical trials

***In vivo* screens for evaluating immunotherapies: High Throughput Murine Model Screening**

- Cost-effective and time-efficient screen to fast-track *in vivo* preclinical immunotherapy development
- Screen compounds across well-validated panels of syngeneic and tumor homograft models
- Benefit from complimentary vehicle group for all models

Multiomics Biomarker Analysis

Comprehensive multiomics biomarker analysis allows researchers to gain a more complete understanding of the molecular changes underlying a particular disease or treatment response.

At Crown Bioscience, we continually invest in cutting-edge technologies, and validate and develop new assays, to provide our customers with a comprehensive range of multi-omics laboratory services.

DNA/RNA

- Standard: PCR, qPCR, ddPCR, Sanger Sequencing
- NGS: RNA-Seq, WGS, WES, WGBS, LncRNA-Seq, single cell sequencing, mouse IO RNA-seq panel
- Long-read sequencing
- Microbiome sequencing
- NanoString nCounter
- Optical genome mapping

Protein

- DIA MS-based proteomics: Discovery, targeted, surface proteomics, phosphoproteomics and PTM, chemoproteomics, immunopeptideomics, etc.
- Immunoassays: ELISA, MSD, Luminex®, Western/ Simple Western, 2D gel, and ELISpot
- Flow cytometry: spectral and standard
- Cytokine and chemokine profiling

Spatial and Tissue-based

- Spatial transcriptomics and proteomics: NanoString GeoMxÂ® DSP, 10x Genomics Visium
- Digital Pathology, IHC, multiplex IF w/ Akoya, Ultivue, RNAScope ISH, FISH, H&E, etc.
- AI-enabled image analysis, board-certified pathologists
- Tumor tissue microarray: off-the-shelf and custom
- Rare cell analysis
- High content imaging

DMPK, Toxicity and Bioanalysis

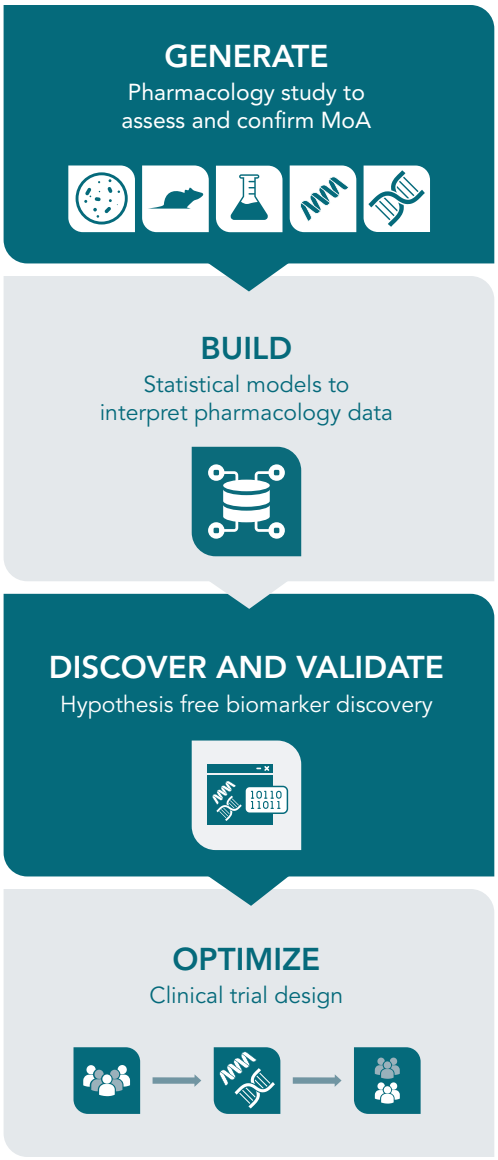
- Integrated PK/PD, *in vivo* PK, *in vitro* ADME, non-GLP toxicity
- Bioanalysis across modalities, including ADC mechanistic bioanalysis, large mol. and ADA, small mol, NCE, PROTAC, oligos, peptides.
- Hematology, blood and urine clinical chemistry, coagulation, rare cell analysis
- hFcRn and humanized/GEMM options
- NHP access

Bioinformatics Data Analysis for Biomarker Discovery

Trust our extensive experience and powerful bioinformatics capabilities to maximize the value of your preclinical data, and de-risk your drug development through early identification of candidate biomarkers.

Use our biomarker discovery services to advance your preclinical and clinical therapeutic candidates with:

- In-depth biological insight into mechanisms of action and pharmacodynamics
- Enhanced trial design and patient stratification through data-informed decisions
- Improved clinical trial success using predictive or prognostic biomarkers



Get in touch

Sales
US: +1 858 622 2900
UK: +44 (0)1530 234871
busdev@crownbio.com
www.crownbio.com

Scan to access our resources