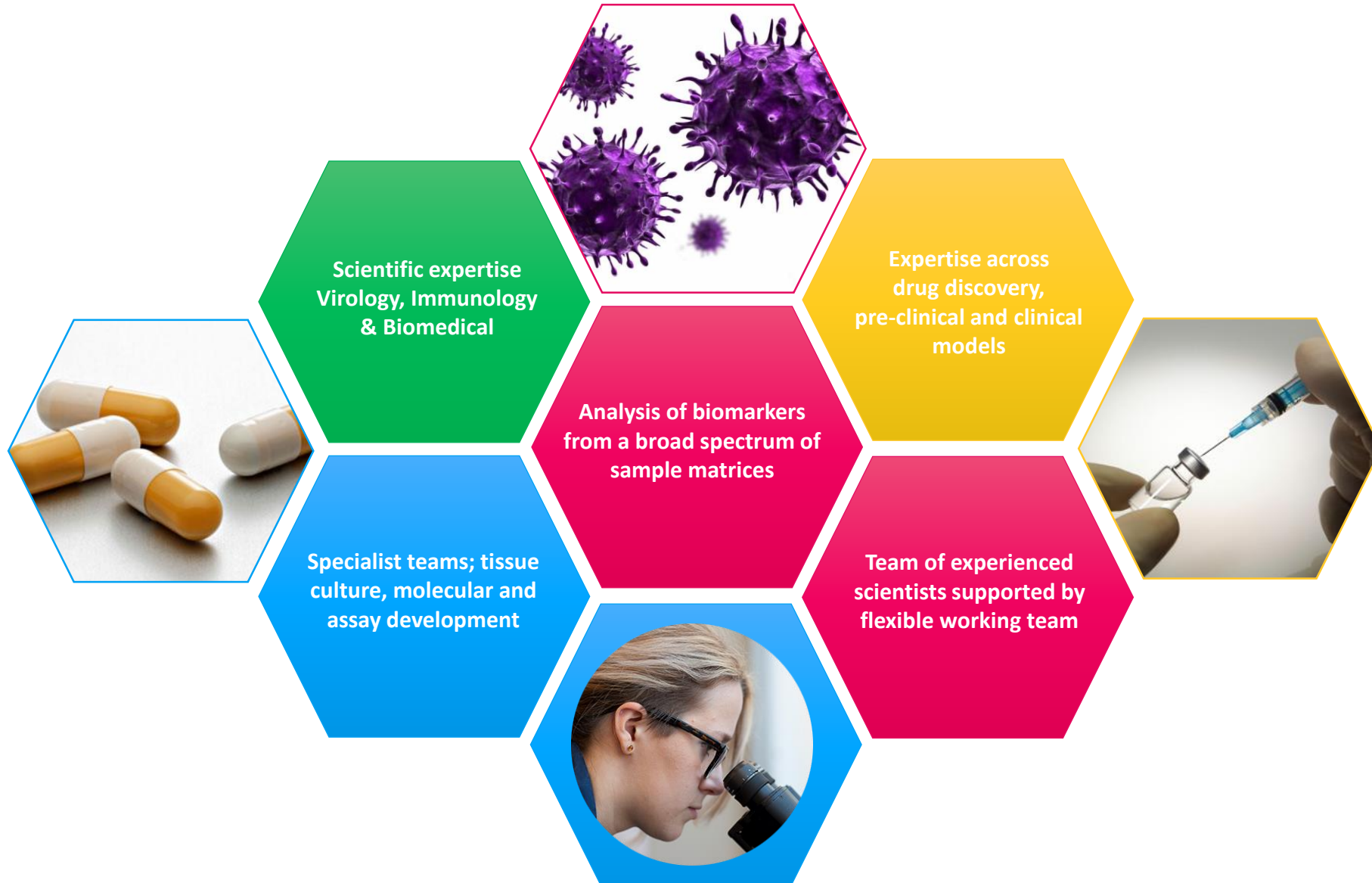


Laboratory Services



Our Expertise

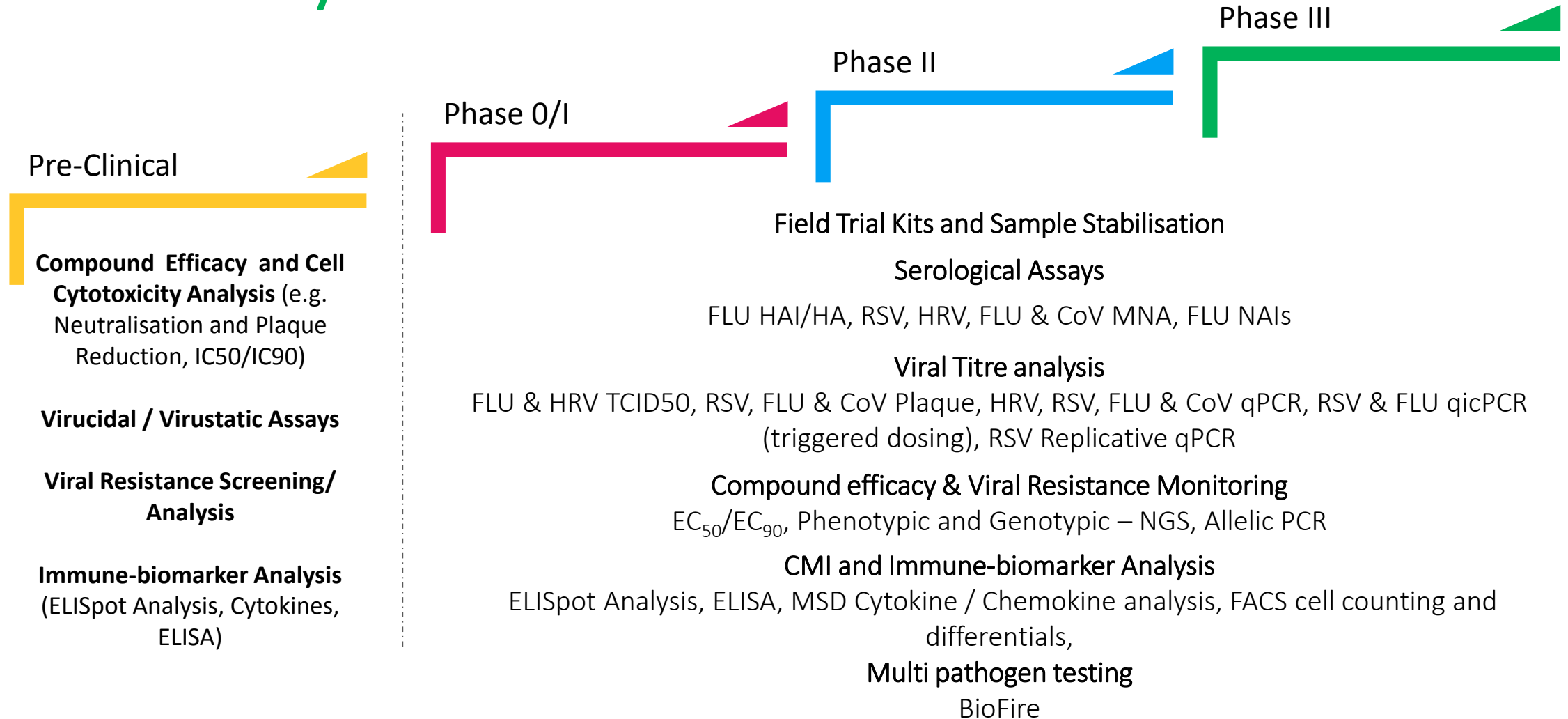


Laboratory Services Overview



- We process over 40,000 samples each year, generating around 80,000 aliquots for analysis
- Bio-Bank containing 200,000 plus samples
- High throughput capacity
 - Serology assays - 1000 samples/wk
 - qPCR - 800 sample/wk
 - Cellular Infectivity assays - 1000 samples/wk
- Custom assay Development, Validation and Transfer to FDA and ICH guidelines
- Work with a small group of strategic partners
- 24/7 laboratory operation
- Multiple segregated laboratory spaces allow increased flexibility

Laboratory Services



Bespoke assays development and technology transfer

Consolidating your biomarker analysis to a single source lab will reduce time and costs throughout your development program



Field Trial Bio-logistics



Sample Collection

- Bespoke sample collection kits
- Virus stabilisation / transport matrix
- Sample collection and storage instructions



hVIVO developed RSV stabilisation Matrix

- Stabilise RSV-A and -B over multiple freeze thaws, 4-8°C and <-20°C.
- Long turn stability data <-20°C



Logistics

- Global field-trial kit distribution
- Central Lab facilities
- Subsequent laboratory sample processing and analysis



Proven track record supporting RSV field trials using our stabilisation matrix and downstream laboratory analysis

Cell Based Assays

- Serological Assays
 - Determination of circulating antibody titres for identification of sero-susceptible volunteers and sero-conversion following vaccination, prophylaxis or viral challenge.
- Infectivity Assays
 - Identification of infections virus present in samples pre and post inoculation or exposure
 - Provides viral titre data
 - Plaque forming or 50% tissue culture infectious dose (TCID₅₀) assay
- Optimised for high throughput and validity of results



Molecular Services

- Purification of DNA, RNA from various types of samples
- Automated RNA extraction and qPCR assay setup
- Viral load end point data



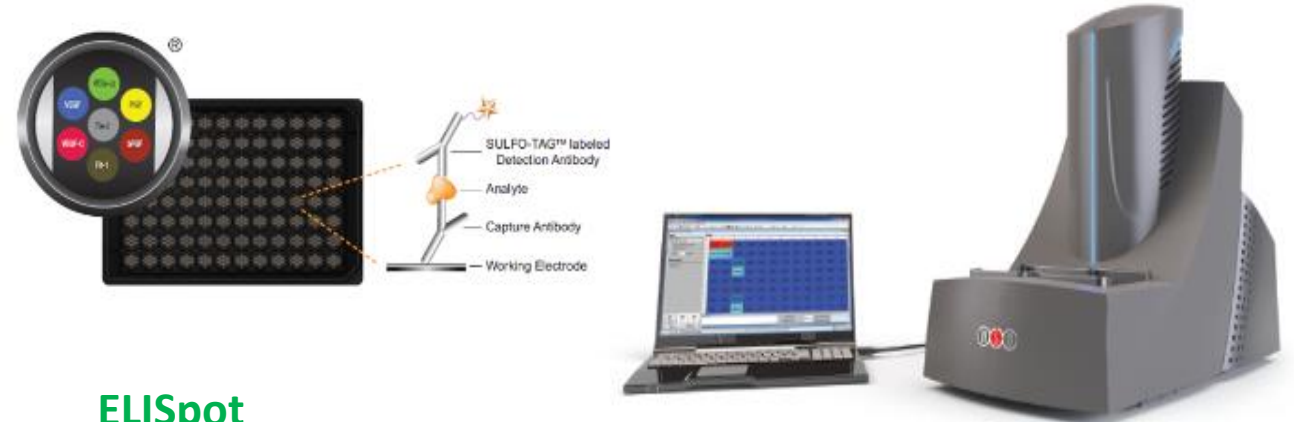
- Fully Validated quantitative PCR Assays (LLOD, LLOQ, Linearity, Precision, Reproducibility, Range)
- Bespoke Assay Development / Validation
- Respiratory panel screening for active & passive surveillance programs
- Qualitative PCR for triggered dosing & volunteer discharge
- Phylogenetic analysis and NGS



Biomarker Analysis

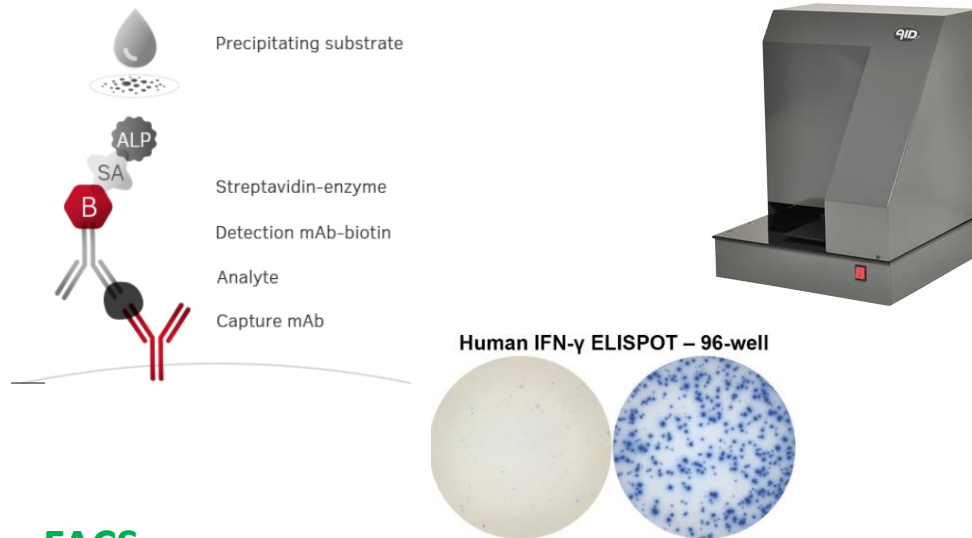
MSD biomarker (cytokine/chemokine) ELISA

- Single and multiplex plate formats
- Highly sensitive imaging detection systems
- No complicated fluidics
- Large panel of validated assays for multiple matrix (e.g. saliva)



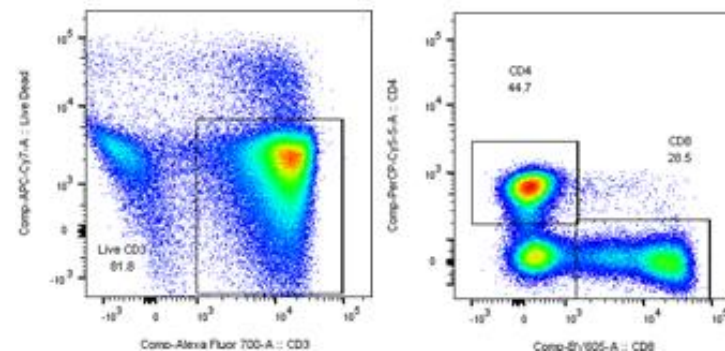
ELISpot

- PBMC analysis for RSV and FLU peptides
- Multiple analyte formats available
- Biobank of exploratory samples available for bespoke client studies



FACS

- High-performance T cell analysis and sorting



Compound efficacy & Viral Resistance Monitoring

- Effective concentration 50% (EC_{50}) ($TCID_{50}$ and plaque reduction) determination for candidate antivirals against both RSV and FLU viruses
 - Comparison to antiviral compounds available commercially
- Compound efficacy against hVIVO GMP challenge viruses to inform study design
- Shifts in EC_{50} and Next Generation sequencing (NGS) for phenotypic and genotypic (variant analyses) antiviral resistance monitoring

