

CONTRACT RESEARCH ASSAYS

The building blocks for your preclinical or clinical program

A variety of assay options are available to customize a program to fit your needs.



ABL has the tools to study large and small effects on the innate and adaptive immune system. With a wide array of multiplexing and ultra-sensitive instrumentation in our arsenal, let ABL's experts help you to explore your candidate's effect on the immune system and efficacy against pathogenic targets.

As an example of needing multiple tools for candidate evaluation, studies have shown both humoral and cell-mediated immune (CMI) responses are needed in order to protect against HIV infection. While it is known that CMI responses are predominantly mediated by CD8+ T cells, it is also understood that an effective CD8+ CTL response is highly dependent on having sufficient CD4+ helper T-cells. Therefore, in preclinical immunogenicity studies that assess the CMI responses elicited by a candidate vaccine, it is important to understand contributions from B cell-mediated antibody responses and both CD8+ and CD4+ T lymphocytes.

Furthermore, inflammation and immunogenicity are also important in the assessment of gene therapy, monoclonal antibody treatments or autoimmune disease. ABL's scientists also have the necessary tools to look at avidity, receptor binding and receptor saturation to aid in screening and downselection of antigen or antibody candidates.

Our well-honed tools allow us to study the effects anticipated from your candidate vaccines, immunotherapies and other immune modulators.

***In Vivo* Screening and Characterization**

Humoral Immune Responses

- B Cell ELISpot
- FACS-Based B Cell Characterization
- Biolayer Interferometry (ForteBio Octet Red96)

- ELISA, PEPSCAN
- Multiplexed Biomarker Detection (Luminex 200, MesoScale Diagnostics QuickPlex SQ120)
- Ultra-Sensitive Biomarker Detection Assays (Singulex Erenna, Quanterix Simoa, Bio-Rad QX200 Droplet Digital PCR System)
- Anti-Drug Antibody Assays (ADA)
- Western Blot
- Antibody-Dependent Cell-Mediated Cytotoxicity (ADCC)
- Neutralizing Antibody Assays

Cell-Mediated Immune Responses

- Immunophenotyping
- Trucount – Absolute Cell Enumeration
- Intracellular Cytokine Staining (ICS)
- Cytokine ELISpot
- Lymphoproliferation
- MHC Tetramer, Dextramer, Pentamer Assays
- Molecular Monitoring of Transcript/Gene and Host Immune Responses

Virology and Molecular Biology Services

Protein Expression and Development



ABL's laboratory staff specializes in customizing the best expression platform for your therapeutic or vaccine. ABL has extensive experience in recombinant protein expression using both mammalian and microbial expression systems. We can provide purified, biochemically characterized and biologically-active native viral proteins from viruses, infected cells or conditioned media. Expression products can include active cytokines and viral or cellular proteins that promote growth or possess other biologic activities. A sampling of some previous protein expression projects at ABL have included:

- A modified *Plasmodium falciparum* EBA-175 protein

- Human soluble CD4
- More than 30 Env proteins from various retrovirus isolates, including sequences with modifications
- Immunotoxins
- Creation of research cell banks (RCB) that led to production cGMP Master Cell Banks (MCBs) and Phase I/II clinical material

Infectivity Measurements

Accurate assessment and trending of the virological outcome following virus exposure is becoming increasingly important, especially during pandemics, in the low dose, repeated preclinical challenge models or in clinical trials of low incidence infections. The virus acquisition rate in exposed trial participants determines the efficacy of the vaccine or therapeutic candidates. Further, clear confirmation of sterilizing protection observed in any vaccine or therapeutic trial requires application of sensitive assays. Therefore, for accurate detection and confirmation of virus transmission, ABL employs a series of molecular and immunological assays.

- Antibody titers with ELISA
- Seroconversion via ELISA, MSD, Octet
- Viral mRNA expression and proviral DNA quantitation with quantitative RT-PCR

Virus Quantification and Expansion

ABL has the experience and capabilities to produce and titer a wide array of virus types on behalf of our clients' experiments and research projects.

Examples of past projects include:

- MVA
- Adenovirus
- HIV, SIV, SHIV
- HTLV
- Filovirus pseudovirus
- Pseudorabies
- Many others

***In Vivo* Screening and Characterization**

Preclinical trials require subjects with appropriate genetic backgrounds that are free from disease or antibody responses to certain agents. Some of the screening offerings at ABL include:

- SRV/STLV and other pathogenic agents
- TRIM5alpha genotyping
- MHC / HLA phenotyping
- Genotyping for genes of interest

Sample Processing

Credible data starts with trustworthy sample inputs. ABL provides top-quality sample processing services, providing technical guidance, sample logistics

and even kit distribution to ensure samples maintain functionality for downstream analyses.

- Whole Blood Processing (PBMCs, Serum, Plasma)
- Processing of Tissues and Mucosal Samples
- RNA/DNA Extraction, Purification and Quantification

Contact Us Today

LUMINEX XMAP TECHNOLOGY AS AN ALTERNATIVE TO ELISA

DOWNLOAD +

MSD ASSAY DEVELOPMENT AND SAMPLE ANALYSIS

DOWNLOAD +