

Bioanalytical Solutions for Immuno-oncology Therapeutics



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Cancer remains one of the most complex and difficult to treat diseases and is a leading cause of death worldwide. Advances in the understanding of the immune system hold great promise for treatment solutions.

Synexa Life Sciences is a specialist in complex biomarker and bioanalytical assay development, execution and interpretation, providing bespoke assay solutions in an integrated, science driven and quality-orientated approach.

Our expertise in the field of immunology and immune-based analytical technologies make us the perfect partner in advancing immuno-oncology therapeutic pipelines.

Several approaches are currently being explored to overcome tumour evasion mechanisms by harnessing the body's own immune system, with particular emphasis placed on:

- Monoclonal antibodies
- Checkpoint inhibitors
- Cell therapies
- Oncolytic virus therapies

We have a range of complementary assays for the assessment of Immuno-oncology therapeutic modalities as well as the required expertise for custom development and validation of bespoke assays. Our proficiency extends across a diverse range of matrices, encompassing the entire biological continuum.



Immuno-oncology Services

We use innovative approaches and validated platforms to answer customer-specific questions for quality, clinically-relevant data.

Target Engagement

Assessment of target engagement quantifies the effects of the therapy on the immune system, providing integral early insight into the therapeutic's activity, saving time and money on molecules with suboptimal engagement.

Mechanism of Action

Data obtained to quantify the effects of the immune system on the malignancy are best studied in an integrated manner by utilising biomarkers from across the biological continuum, from DNA through to tissue.

Flow Cytometry is core to Synexa's positioning as a biomarker expert.

Synexa Life Sciences is positioned at the forefront of the rapidly expanding field of flow cytometry, offering up to 28-colour panels. Our team, led by experts in the field with decades of experience, utilise robust and proven technology platforms. These platforms are harmonised across our strategically positioned labs, enabling us to serve our global customer base with high-quality, scientifically rigorous clinical data.

We possess full capability of managing samples through the complete analytical cycle, with dedicated project, logistics and sample management policies

✓ Immuno-profiling & Phenotyping Assays

- Lymphocytes (TH, TFH, Treg, TMemory, NK and B cells)
- Dendritic cells (DCs)
- Monocytes
- Macrophages
- Myeloid-derived suppressor cells (MDSCs)
- Multimers staining
- Intracellular staining
- Treg polarisation assessment

✓ Target engagement/ PK/PD Assays

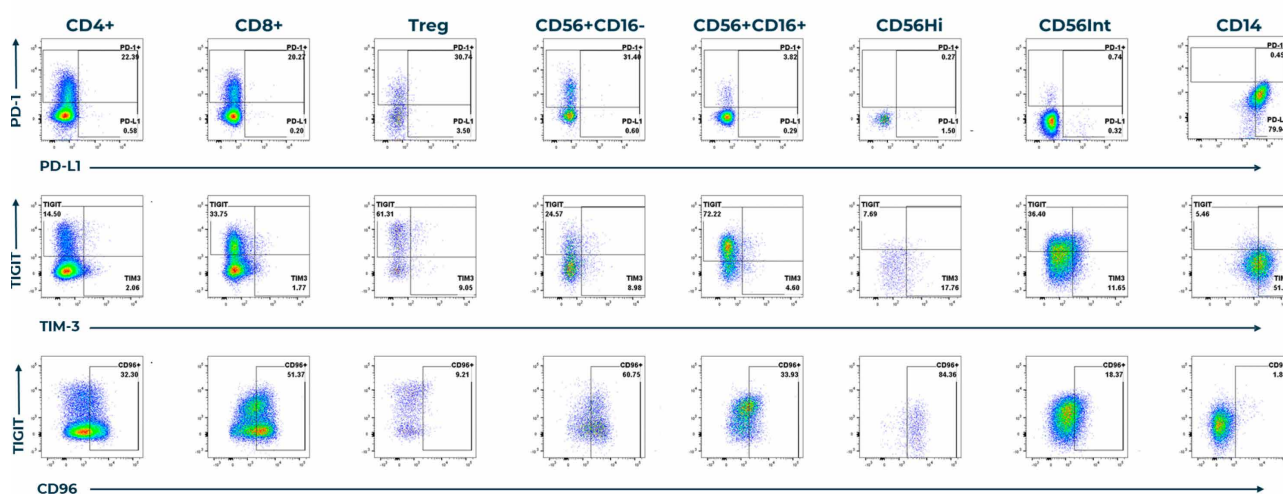
- Receptor occupancy assays
- Phospho-flow assays
- Polyamine uptake assessment
- Flow cytometry-based PK assessment

✓ Functional Assays

- Cytokine expression
- Cytotoxic markers
- Activation and exhaustion
- Proliferation assays
- Basophil degranulation
- Rare cell detection and quantification
- Antibody-dependant cellular cytotoxicity (ADCC)
- Complement-dependant cytotoxicity (CDC)
- Small particle detection and analysis

Case Study Applications

Immunophenotyping – Co-inhibitory Receptor Expression



Representative dot plots depicting ex vivo co-inhibitory receptor expression of TIM-3, PD-1, PD-L1, CD96 and TIM-3 on multiple cell subsets. B cells are not shown.

Our Biomarker & Bioanalytical Services

Synexa specialises in providing bespoke end-to-end biomarker and bioanalytical solutions, developed and validated to meet your specific challenges.



✓ **Pre-clinical/Translational**

- Biomarker selection & strategy
- Functional human *in vitro* testing

✓ **Genetic**

- Digital PCR
- Tumour immunosensitivity
- Microbiome profiling
- Persistence of cell therapies
- Nanostring oncology panels

✓ **Soluble Biomarkers**

- Cytokines & Chemokines
- Complement assays
- Serology
- Auto-antibody profiling
- Customised immunoassays

✓ **Cellular**

- Immunophenotyping
- Cellular expansion and persistence
- Polyfunctionality
- Receptor occupancy assays
- Cellular avidity

✓ **Tissue**

- Histopathology
- IHC & FISH
- Multiplex Immunofluorescence
- Nanostring

✓ **Olink Multiplex Proteomics®**

- Oncology panel
- Immuno-oncology panel
- Inflammation panel
- Cytokine panel
- Biological process panel

✓ **Clinical Bioanalysis**

- Pharmacokinetics
- Immunogenicity

✓ **Data Analytics & Insights**

- Integrated immunological insight
- Complex biosignatures & stratification



Get in Touch

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