Synexa Flow Cytometry Services

At Synexa we create robust, bespoke flow cytometry panels, custom-designed to meet customer-specific needs and requirements. We offer a comprehensive suite of advanced assays, including immunophenotyping assays, target engagement PK/PD assays as well as an array of functional assays.

Our flow cytometry assays are validated according to the highest standards, including the Clinical and Laboratory Standards Institute's (CLSI) H62 Validation of Assays Performed by Flow Cytometry guidelines, ensuring that our assays deliver accurate, reproducible results and meet regulatory requirements and best practices.

Our global lab capabilities extend to processing clinical samples from diverse matrices (fresh or cryopreserved) and are strategically positioned to ensure customers receive high-quality, scientifically robust clinical data to advance their drug development pipelines.

Our Services

- Bespoke Panel and Assay Design
- Assay Development & Validation
- In-depth Immunophenotyping
- Sample Management and Storage
- Sample Flexibility
- Raw Sample Stability Assessments
- Off-the-Shelf TBNK Solutions
- Advanced Gating Approaches
- Data Analysis and Interpretation

Assays

Immuno-profiling & Phenotyping Assays	Target Engagement/ PK/PD Assays	Functional Assays
• Lymphocytes (TN, TH, TFH, Treg, TEFF, TEM, TCM, NK & B cells) • Dendritic cells (DCs) • Monocytes • Macrophages • Myeloid-derived suppressor cells (MDSCs) • Multimers • Intracellular staining • Treg polarisation assessment	• Receptor occupancy assays • Phospho-flow assays • Polyamine uptake assessment • SARS-CoV-2 immune response assessment • Flow cytometry-based PK assessment	• Cytokine expression • Cytotoxic markers • Activation markers • Proliferation assays • Basophil degranulation • Rare cell detection and quantification • Antibody-dependant cellular cytotoxicity (ADCC) • Complement-dependant cytotoxicity (CDC) • Small particle detection and analysis

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Case Studies/Data

MHC Multimer Analysis: Detection of antigen specific vaccine responses using pentamers

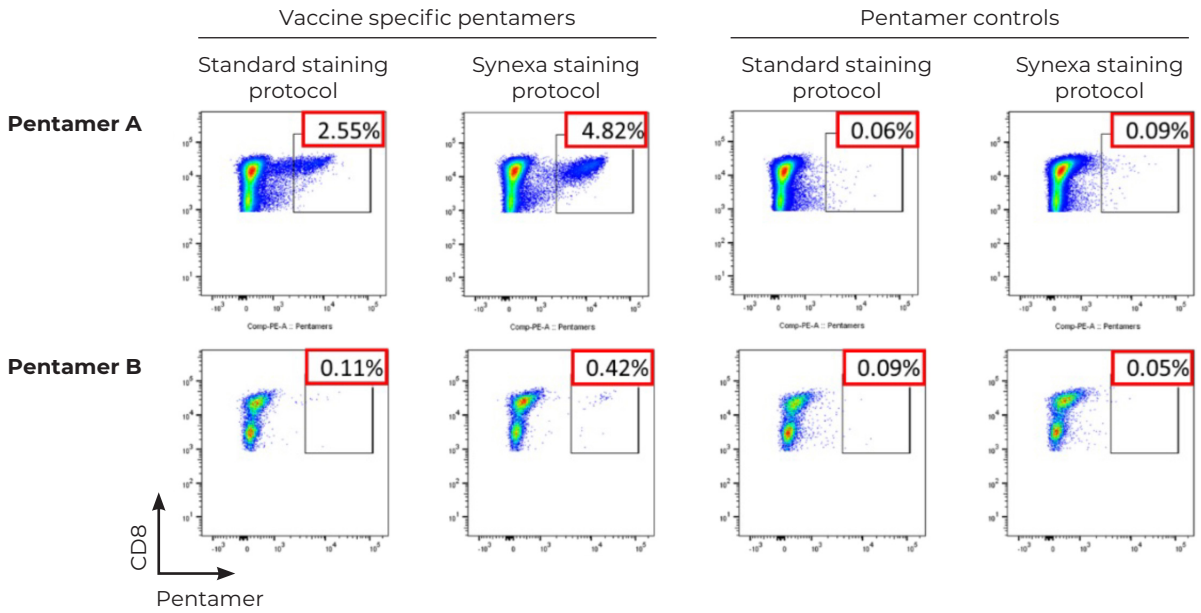

Figure 1: Flow cytometry plots showing the detection of antigen-specific CD8+ T cell responses using two different pentamers, Pentamer A and Pentamer B. Synexa's in-house optimised protocol demonstrated improved detection of rare populations while maintaining low background staining with pentamer controls, compared to standard published methods. Synexa participates in the Immudex Multimer Proficiency Panel Program, and our team has consistently achieved an above average or higher score in this scheme.

T cell immunophenotyping and cytokine responses following stimulation of PBMC with vaccine-specific antigens

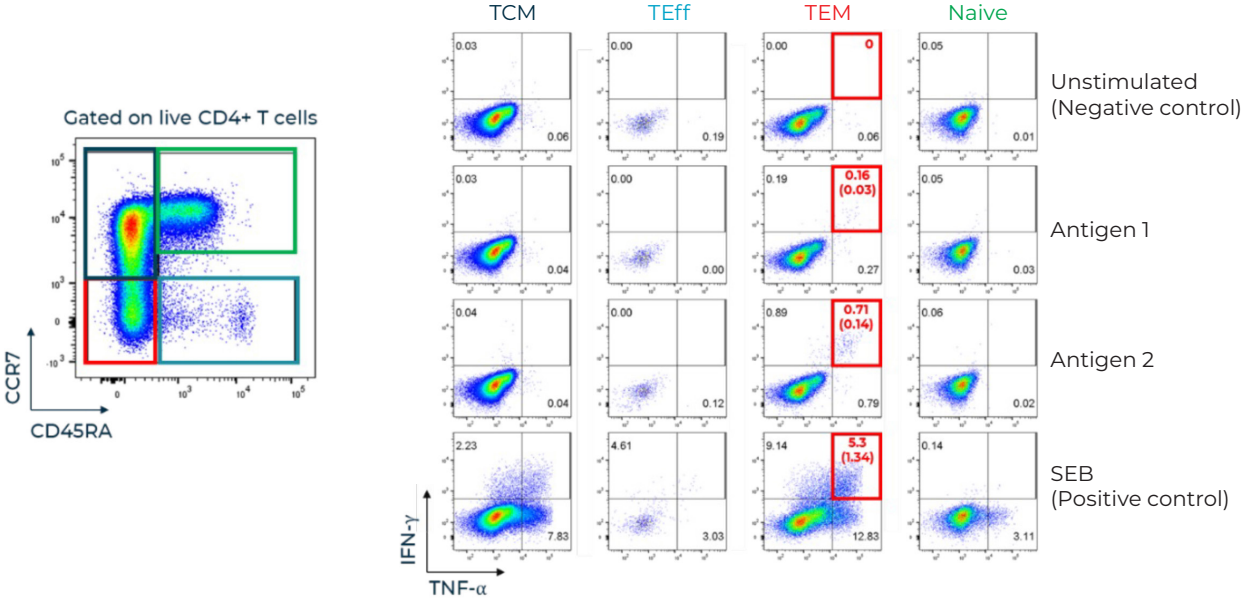

Figure 2: The plots are gated on live CD4+ T cells and show the distribution of vaccine-specific cytokine expressing cells according to various memory T cell subsets, including central memory T cells (TCM), effector T cells (TEff), effector memory T cells (TEM), and naive T cells (Naive). Increased cytokine production in the TEM subset upon stimulation with antigens highlights the distinct functional profile of this T cell subset.

For more information **contactus@synexagroup.com** to see if we can find a solution to your bioanalytical challenges.

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