Lupus Biomarker Discovery

Our Expertise – Lupus

Synexa's expertise in the field of immunology and immune-based analytical technologies makes us the perfect partner in advancing immune-therapeutic pipelines. We have validated assays available for relevant biomarker analyses and have proven expertise in the development and execution of bespoke bioanalytical assays for biological therapeutics.

To date, we have supported a large number of translational research projects across a variety of areas including biomarker discovery and development, *in vitro* assessment of efficacy and biomarker clinical sample analysis.

This is driven in part by the high unmet medical need of the disease and the fact that the Western Cape region of South Africa has one of the highest incidences of Lupus in the world, with a strong predisposition to Lupus Nephritis.

Our Services

Clinical bioanalysis

- Pharmacokinetics
- Pharmacodynamics
- Immunogenicity: ADA, nAB
- Biomarker analysis

Soluble biomarkers

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

Cellular

- Immunophenotyping
- Immune monitoring
- Polyfunctionality
- Cellular avidity
- Receptor Occupancy assays
- Target Engagement assays

Genetics

- Gene expression profiling
- Pharmacogenetics
- Sequencing & PCR
- Immunogenomics
- Tumour immunosensitivity
- Microbiome profiling
- T-cell and B-cell receptor repertoire

Tissue

- Histopathology, IHC & FISH
- Biomarker analysis
- NanoString
- Gene expression

Pre-clinical/ ProtoTrials®

- Biomarker selection & strategy
- Functional *ex-vivo* testing
- Translational *in vitro* testing

Data analytics & insight

- Integrated immunological insight
- Complex biosignatures & stratification

Novel modality bioanalysis

- Gene therapy bioanalysis
- Exosome bioanalysis
- Cell therapy bioanalysis

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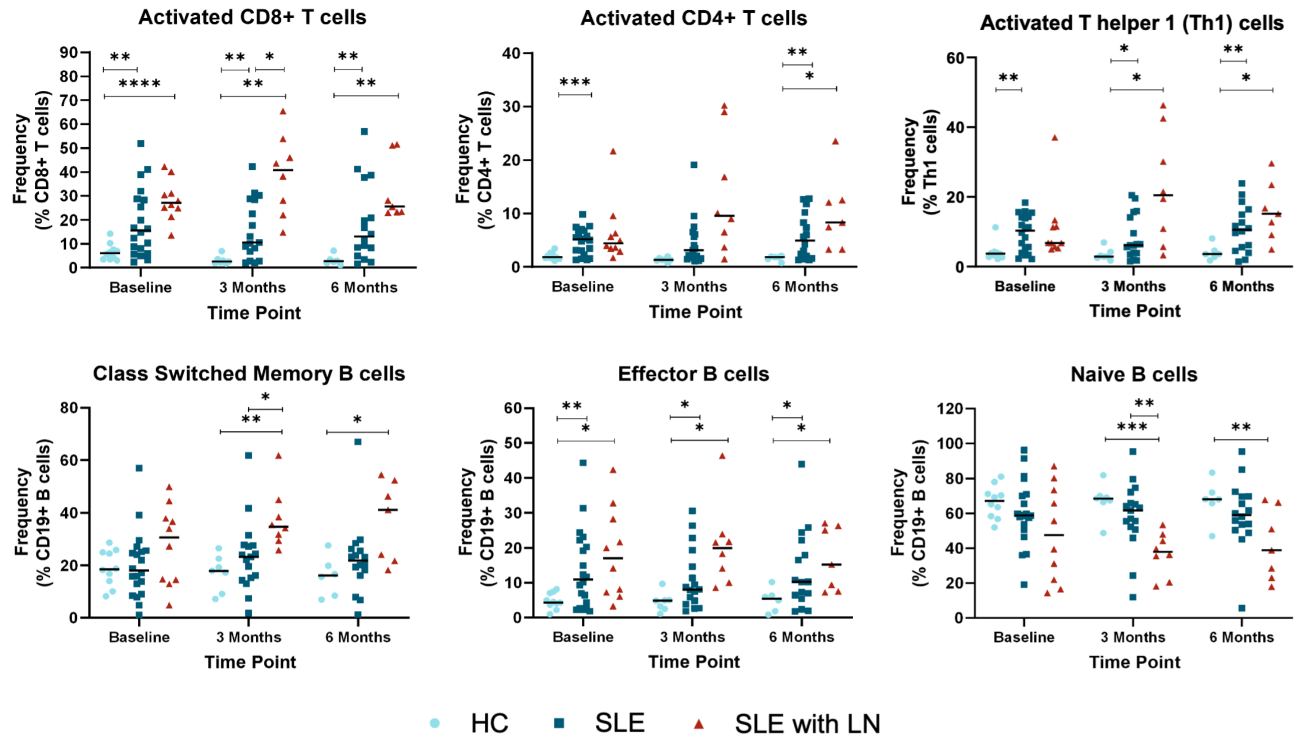
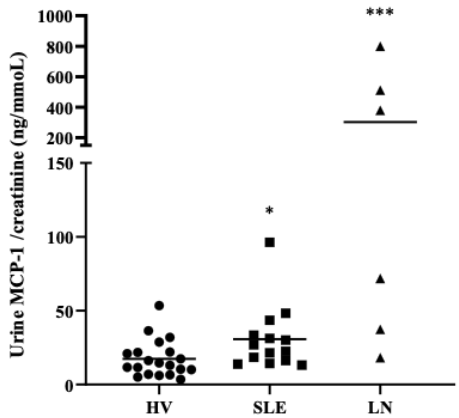
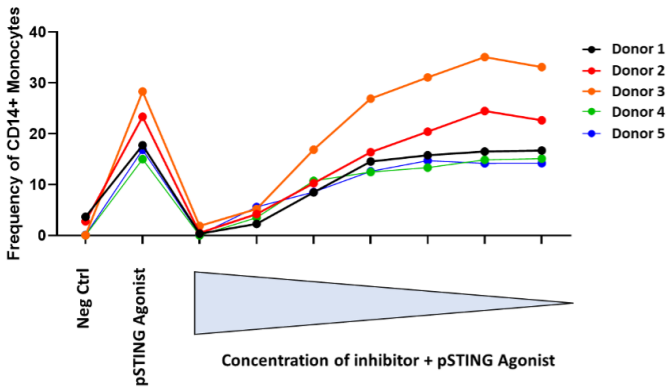
Case Studies/Data



Frequency of different immune cell subsets in whole blood collected from healthy adult controls (HC), patients with Systemic Lupus Erythematosus (SLE) and patients with SLE with lupus nephritis (LN) assessed longitudinally over 6 months using flow cytometry.



Urine MCP-1 (U-creatinine corrected) levels from healthy adult volunteers (HV), patients with SLE and patients with SLE with lupus nephritis (LN) using MSD.



Flow cytometric assessment of phosphorylated STING (pSTING) on CD14+ monocytes in response to *in vitro* up-regulation of the IFN signaling pathway and the effect of a novel pathway inhibitor.

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

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