DATASHEET

Peripheral Blood Mononuclear Cell (PBMC) Assays

Peripheral Blood Mononuclear Cells (PBMCs) are peripheral leukocytes isolated from whole blood which include T Cells, B Cells, NK Cells and Monocytes. PBMCs are a highly valuble research tool, providing an excellent cellular model for a wide range of applications and assessments of therapies that may act on inflammatory/immunological pathways (directly or indirectly).

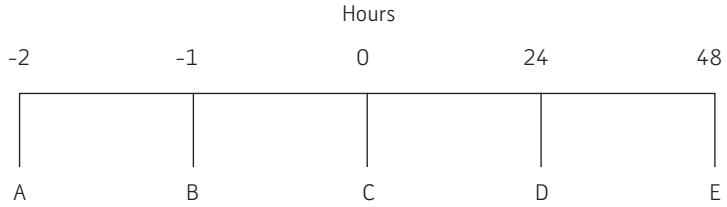
Activation of PBMCs can be achieved through a variety of mechanisms, such as exposure to lipopolysaccharide (LPS) or agonistic anti-CD3/CD28 antibodies. LPS can simulate an encounter with a gram-negative bacteria to mimic innate inflammation, while exposure to anti-CD3/CD28 antibodies activates T Cells specifically and simulates an adaptive immune response.

These responses can be characterized through readouts such as toxicity, cellular proliferation, cytokine/chemokine production and/or expression of activation markers via flow cytometry.

Experimental Overview

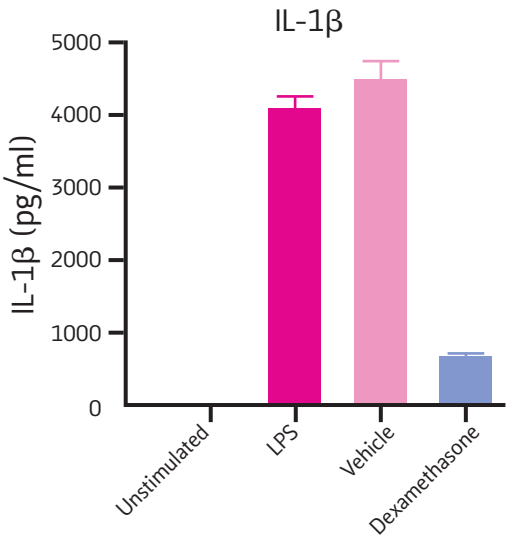
Species Availability:	Human (others available upon request)
Study Duration:	Variable depending on objectives
Number/group:	Variable depending on objectives
Activators:	Lipopolysaccharide (LPS) Agonistic Anti-CD3/CD28 Abs
Positive Controls:	Dexamethasone Cyclosporin A (Alternative)
Standard Assessments:	Cellular Viability Cytokine/Chemokine Production
Add-on Assessments:	Cellular proliferation immunophenotyping by FACS

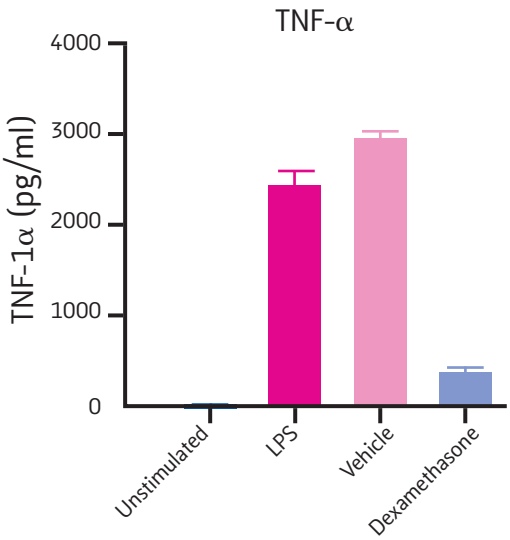
Example Experimental Schematic

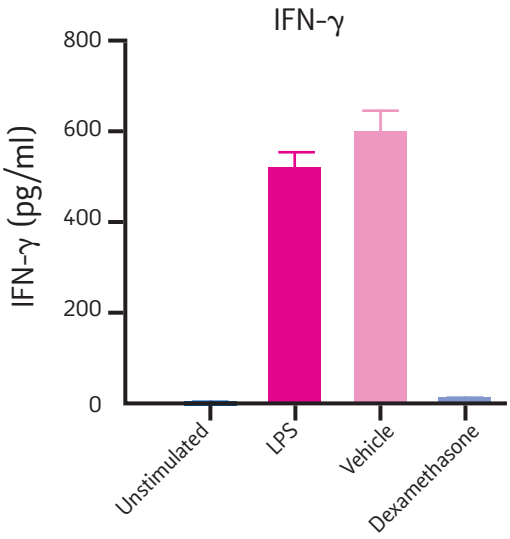


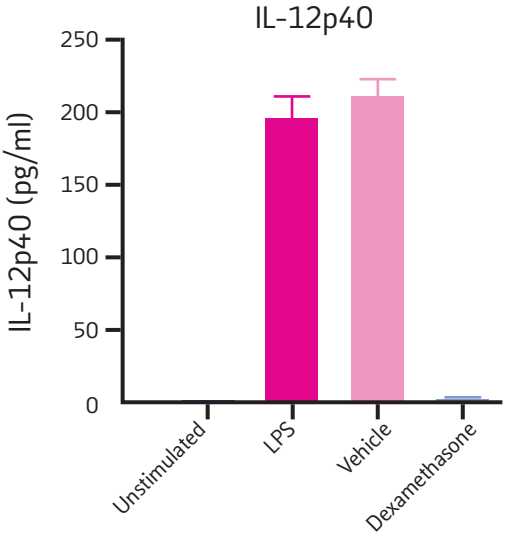
A. Seed cells
B. Pre-treat with test items and controls
C. LPS or anti- CD3/CD28 stimulation
D. LPS supernatant collection
E. CD3/CD28 supernatant collection

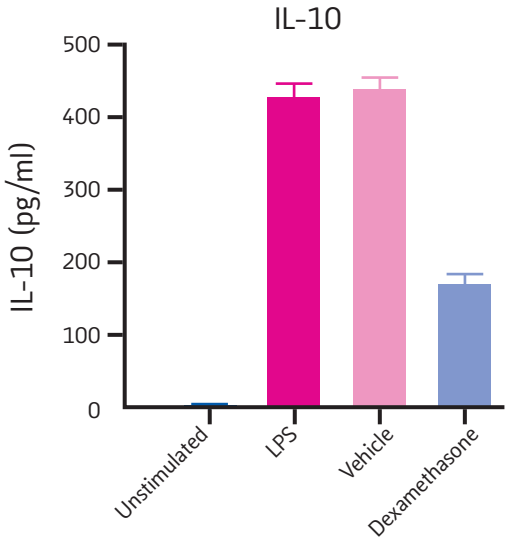
In Vitro LPS Stimulation Representative Model Data

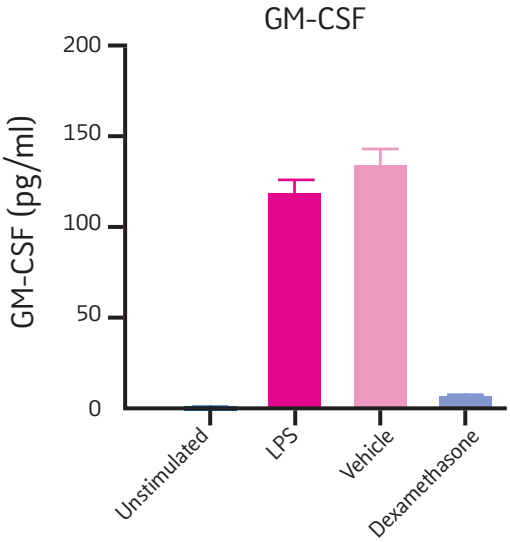




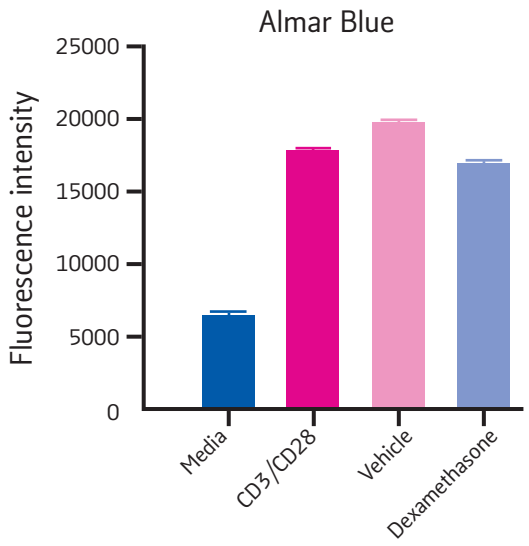


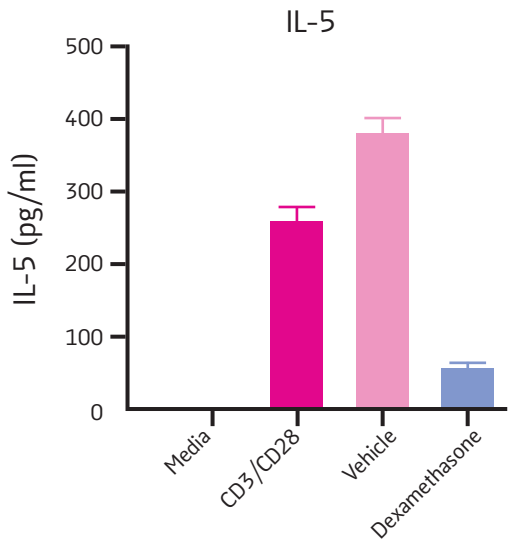


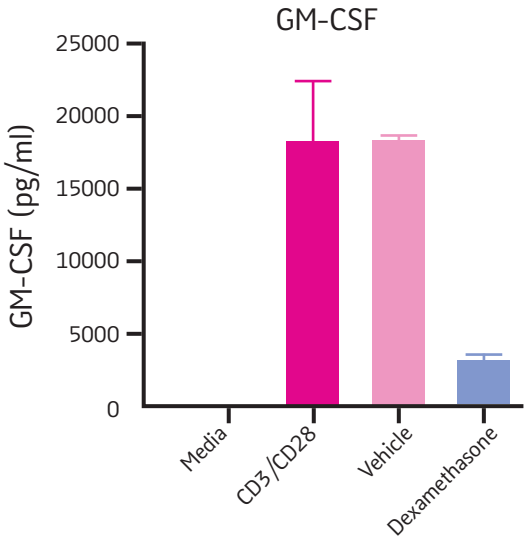


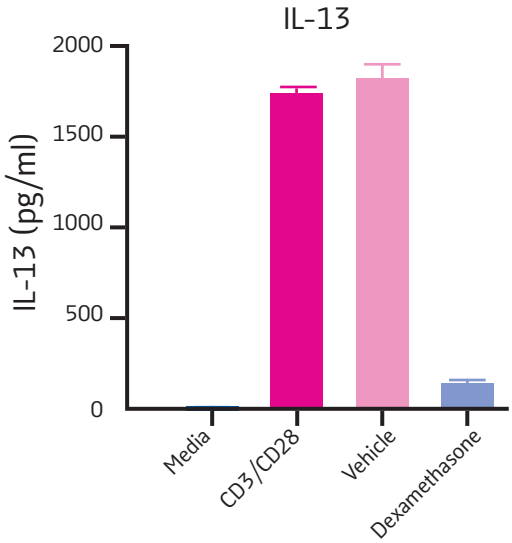


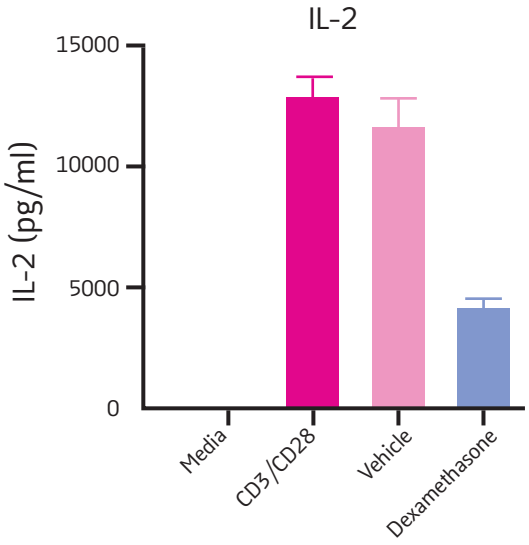
In Vitro Anti-CD3/CD28 Bead Stimulation Representative Model Data

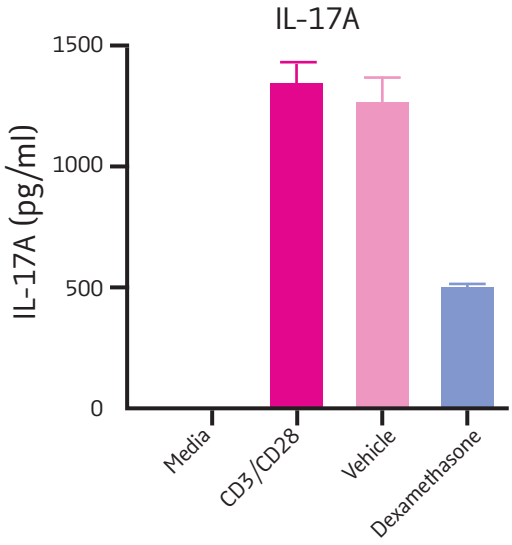






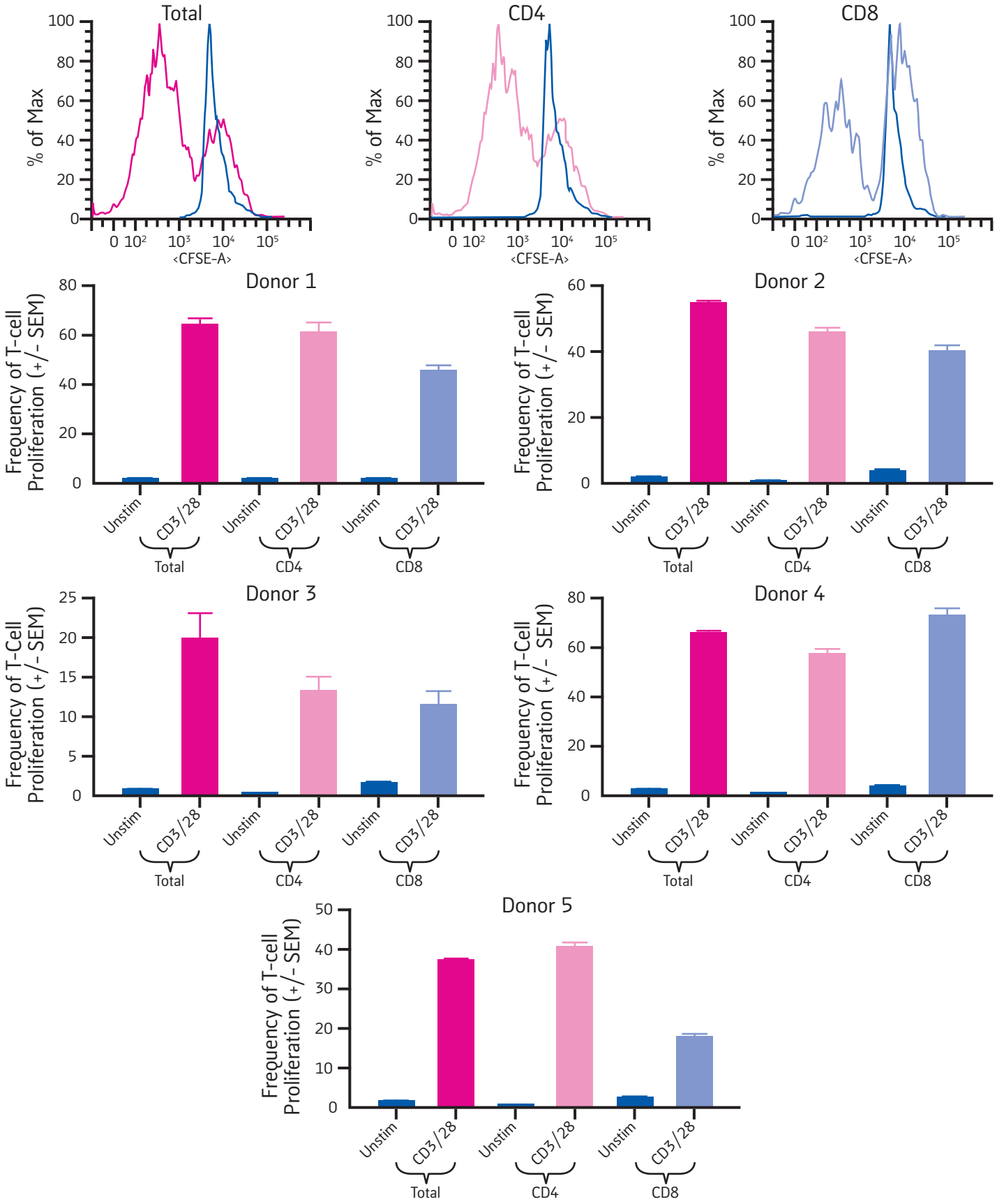






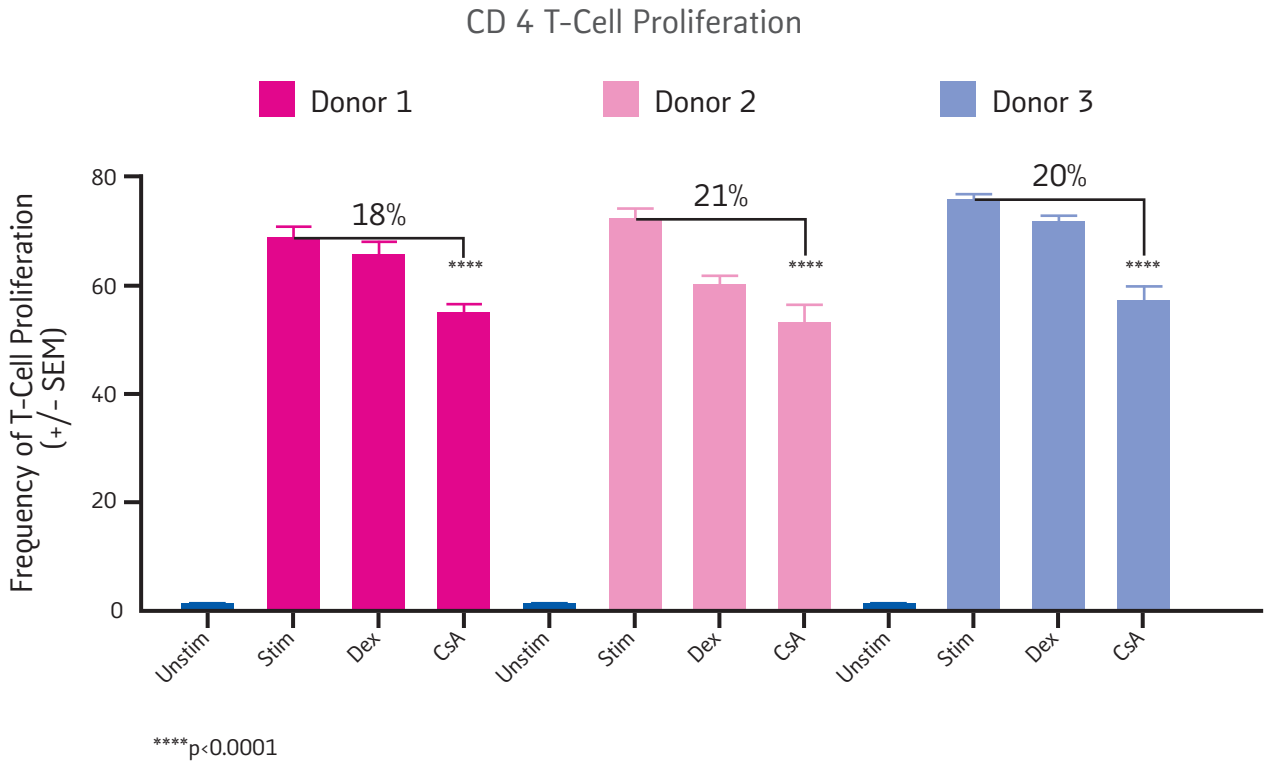
T-Cell Proliferation Via Flow Cytometry Following Anti-CD3/CD28 Bead Stimulation

(PBMCs are stained with CFSE prior to plating)



CD4 T-Cell-Specific Proliferation Via Flow Cytometry Following Anti-CD3/CD28 Bead Stimulation

(CD4 T-Cells are stained with CFSE prior to plating)



****p<0.0001

Our Clients Say ...

"The performance of your team far exceeded our expectations. The study was performed well and we appreciate all your input into the study design. Your responsiveness and feedback during the study and following in the data interpretation was extremely helpful to guide our next steps. That's something we don't find with every CRO."

S.G., Toxicologist, Biotech Company

"Of all the CROs that I have used over the years... MLM Medical Labs been one of the very best in terms of scientific knowledge, data quality, timelines, flexibility and personal contacts."

O.B., Director of Therapeutics, Pharmaceutical Company

"Throughout our relationship, you have been attentive to our needs and have completed exploratory pilot studies and three drug studies with professionalism and an understanding of tight biotech timelines that are unmatched by other CROs."

D.Z., Director of Therapeutics, Biotech Company

About MLM Medical Labs

MLM Medical Labs is a leading specialty and central laboratory with comprehensive research services and diagnostic capabilities in Europe and the United States. Offering a range of standard and fully customizable analytical services across a variety of therapeutic areas, we add value at every stage of the drug development process from non-clinical/preclinical through phase IV clinical trials that serve to augment and accelerate research programs to their next stages and milestones. Each disease area is supplemented extensively by different models and batteries of *in vitro* and *ex vivo* analyses, offering answers to your therapeutics' effect on different parameters. With our strong reputation for scientific expertise, passionate approach to customer care, and adherence to quality data, we empower clients ranging from emerging biotech to Top Ten Global Pharma companies to reach confident clinical decisions that ultimately serve to improve patient lives.

If you'd like to discuss a particular study or speak with a scientist, please reach out to us!

info@mlm-labs.com
+1 (651) 641 1770
+49 (2161) 4642 108