



Hidden Motif Scientific – *Pre-Seed*

*Imagine continuous,
real-time monitoring
of the body's immune response*

**Continuous immunometabolic tracking
via
urinary metabolomic analysis**

*Unlocking a new dimension of data
for clinical practice, remote patient monitoring,
clinical research, and drug development*



The problem

- Clinical decisions in conditions characterized by dynamic immune activity still rely on sporadic testing and late clinical manifestations.
- Early immune activation, modulation, and recovery phases remain poorly observable in real time.
- As a result, treatment adjustments are typically reactive rather than anticipatory.

Why this matters

- Longitudinal, non-invasive immune trajectory monitoring could enable earlier detection, objective recovery tracking, and dynamic treatment response assessment across the full course of immune-mediated diseases and conditions with a significant immune component.
- Structured immunometabolic patterns are intended to provide reproducible, quantitative inputs suitable for disease modeling, therapy-response analysis, and AI-assisted interpretation in translational and clinical trial settings.

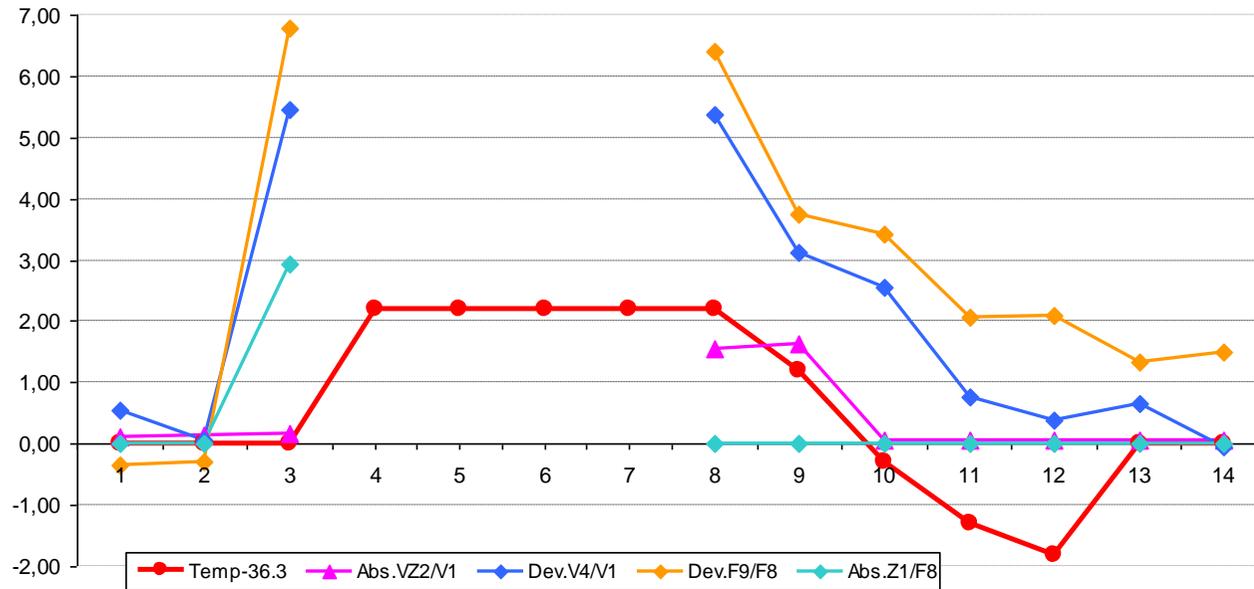
There is currently no practical, passive method to continuously generate high-resolution immune trajectory data across immune-mediated and immune-modulated conditions.

Solution: Portable System for Precision Immunometabolic Profiling

- **Comprehensive Immune Trajectory Tracking** Enables continuous monitoring of disease dynamics – from early detection and objective recovery tracking to dynamic therapy response assessment.
- **Passive & Non-Invasive** Urine-based profiling with zero additional patient burden.
- **High-Fidelity Data for AI** Generates structured, reproducible datasets for disease modeling, therapy-response analysis, and AI-assisted interpretation in clinical trials.
- **Versatile Deployment & Scalability** In its plug-and-play configuration, it ensures autonomous operation across all environments – from high-acuity hospital wards to remote patient monitoring. A miniaturized, autonomous design that seamlessly embeds into smart medical beds and toilet systems.

Solution example: Atypical Pneumonia

- Early immune activation detection – **before** fever or symptoms.
- Objective recovery monitoring – **beyond** – **no additional patient burden.**



Days 1-2: Baseline. **Day 3:** Metabolic signal shifts (♦,♦,♦) precede overt clinical symptom onset. **Day 4:** Fever onset (●). **Day 8:** Therapy initiated. **Day 14:** Clinical recovery. Inflammation-associated biomarkers ♦,♦ return toward baseline, whereas metabolic stability biomarker ♦ remains elevated, consistent with ongoing regenerative processes.

Urinary metabolic profiling reflects infection onset and physiological recovery earlier, and for longer, than standard clinical observation can capture.

Market Entry Strategy: Early Positioning & Clinical Focus

Options for Early Product Positioning

1. **Translational Research Platform** (high probability): (+) faster pilot adoption & minimal regulatory exposure; (-) smaller budgets.
2. **Pharma Clinical Trials Infrastructure** (medium probability): (+) no immediate diagnostic regulatory clearance required & clear value in therapy-response characterization; (-) requires validated signal and institutional credibility.
3. **Clinical Decision Support Platform** (low probability): (+) strongest long-term defensibility; (-) high clinical evidence burden, long regulatory timeline, capital-intensive development.

Selection Criteria for Priority Clinical Pilot Indications

1. Pattern Robustness, 2. Diagnostic & Disease-Modeling Value, 3. Economic Value by Customer Segment, 4. Pilot Feasibility, 5. Regulatory Manageability.

Clinical Indication Prioritization for Early-Stage Pilots

1. **Infectious diseases**: (+) Clear longitudinal trajectories; fast validation cycle. (-) Early-onset data capture challenges.
2. **Immune & Neuro-Immune Disorders**: (+) Strong "flare-remission" dynamics; (-) Complex clinical endpoints.
3. **Oncology**: Natural Pharma entry; tracks response vs. non-response. (-) Long therapy cycles; complex endpoints.
4. **Post-Op & Transplantation**: (+) Predictable immune phases; high clinical stakes; (-) Requires access to spec. centers.
5. **Cardiometabolic Health**: (+) Direct alignment with AHA strategy; high demand for monitoring the "Metabolic Syndrome → Heart Disease" progression; (-) Requires long-term correlation studies to prove the predictive value.
6. **Diabetes**: (+) Strong metabolic signal; massive Pharma-aligned market.
(-) High bar for added value vs. existing metrics.

Product Development Roadmap: From Prototype to Pre-series Systems

Current Stage: Functional Prototype (Operator-controlled)

- **Benchtop analyzer** delivering reproducible metabolic signals.
- Requires a highly qualified operator for system management.
- Suitable for minimal, strictly controlled pilot studies.

Next Stage: Pre-series System Development

- **Pre-series benchtop analyzer** for research centers and clinical settings.
- **Embedded analytical modules** for integration into “smart” medical beds and “smart” toilets.
- **Autonomous operation:** Full transition to operator-free functionality.
- **OEM-manufacturable hardware** with in-house integration of critical analytical components.

Partnership Status: *Agreements reached with partner OEM companies for joint development and component supply; Letters of Intent (LOI) obtained.*

Team

Konstantin Sychev, Ph.D.: CEO & CTO

- 30 years of industry experience (bioanalytical chemistry & chemical engineering).
- 17 years as CEO & CTO of an R&D and consultancy firm.
- Corporate clients: Sanofi, Novartis, Danone, Döhler, Cargill, Merck.
- Author of 3 books on analytical chemistry & technology (~10,000 copies sold).
- Author of professional bioanalytical chemistry courses attended by 500+ R&D specialists from 70+ companies.
- Published 30+ scientific articles; expert in statistical and numerical methods in chemistry.
- LinkedIn: <https://www.linkedin.com/in/konstantin-sychev-b3758577/>

Evgeniya Okunskaya, M.S.: COO & Compliance (Process & Quality Systems)

- 12 years of experience in the pharmaceutical, biotech, and startup sectors.
- Expertise in compliance management, quality systems, and optimization of laboratory and operational processes. Skilled in automation of routine workflows, SOP design, and implementation of audit-ready procedures.
- LinkedIn: <https://www.linkedin.com/in/evgeniya-o-7a756955/>

Evgeniy Levkov, M.S. / Advisor, AI & Cybersecurity

- Accumulated 16 years as a Senior DevOps Engineer and 3 years as a Network Systems Expert.
- Expert in cybersecurity, industrial automation databases, and applied AI.
- LinkedIn: <https://www.linkedin.com/in/levkov/>

Contacts: email: team@hiddenmotif.com web: www.hiddenmotif.com