



Advances in Product Testing with the SIMBA Capsule

Naturally Informed: Microbiome
June 2024, virtual



The importance in directly accessing the small intestine.

Primary site of digestion and absorption

Interactions of small intestinal microbiome and host metabolism

- GLP-1 Secretion Stimulation
- Driving glucoregulatory effects
- Short chain fatty acid production
- Fructose metabolism
- Drug bioavailability and response
- Bile acid metabolism



Solution

Intestinal data within easy reach.

SIMBA Capsule Home Kits use a passive ingestible device to collect intestinal fluid biopsies paired with real world data.



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How

The SIMBA GI Health System



AWARDED THE MOST INNOVATIVE TECHNOLOGY
SERVICING THE NUTRACEUTICAL INDUSTRY





Direct access to multi-omic datasets from the intestinal tract.

Multi-omic liquid biopsy from the small intestine

- Genome (16S, shotgun metagenome)*
- Metabolome (including bile acids, SCFA)*
- Proteome
- Virome
- Minerals
-

Data sets linked to real-time intestinal changes

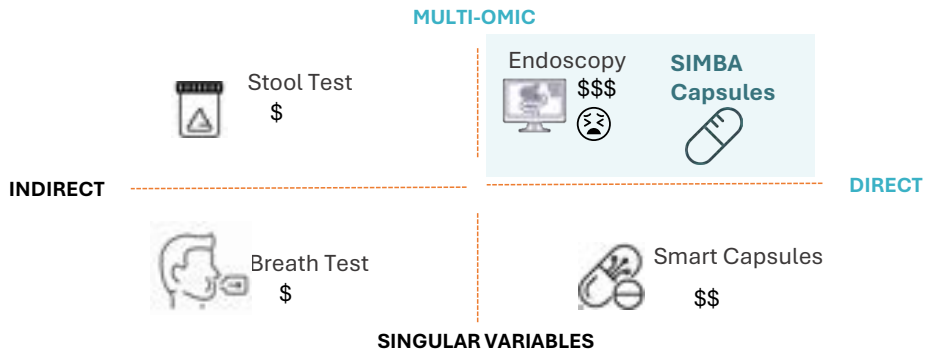
Sealed and preserved during GI transit and mail return

Over 1000+ ingestions completed
Authorized for Investigational Use in US, CA and EU



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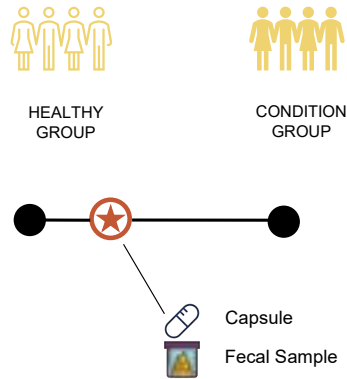
Game changing access. First in-kind data.



The SIMBA Capsule is validated to collect a fluid biopsy comparable to the gold standard ENDOSCOPY.

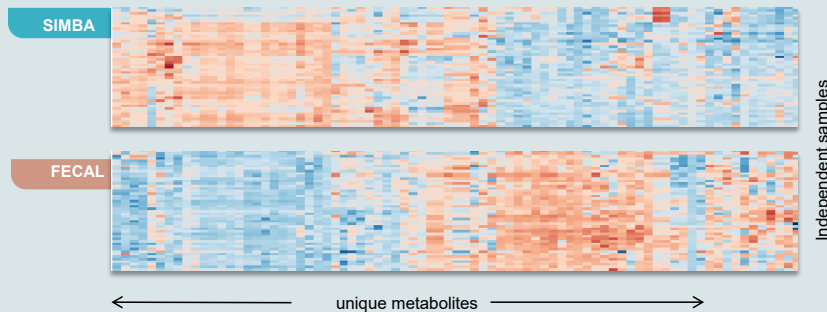
Use Case

Characterizing the Intestinal Environment, *the baseline*



- Disease-specific insights in comparison with healthy
- Characterize multi-omic signatures in GI tract, complementing feces
- Tuning *in vitro* simulation assays for product characterization
- Aid in the identification of function and composition with therapeutic potential
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The differences can be stark.



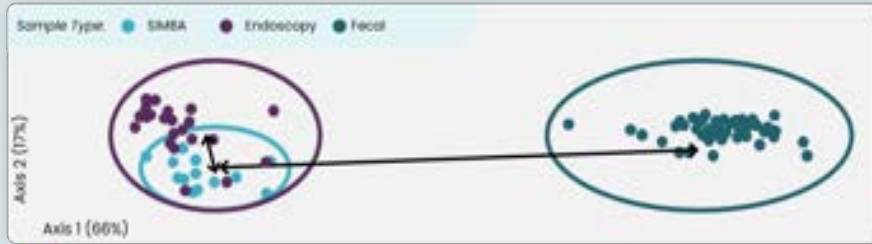
Metabolomic heatmap with samples arranged horizontally.



Contact us to review the data with us



The differences can be stark.



PCoA plot demonstrating the degree of similarity between the 16s sequenced bacterial profiles, genus level.
Note - The closer the groupings the greater the similarity.

Clinical validation study of the SIMBA capsule
Healthy and GI Disordered participants, n=30



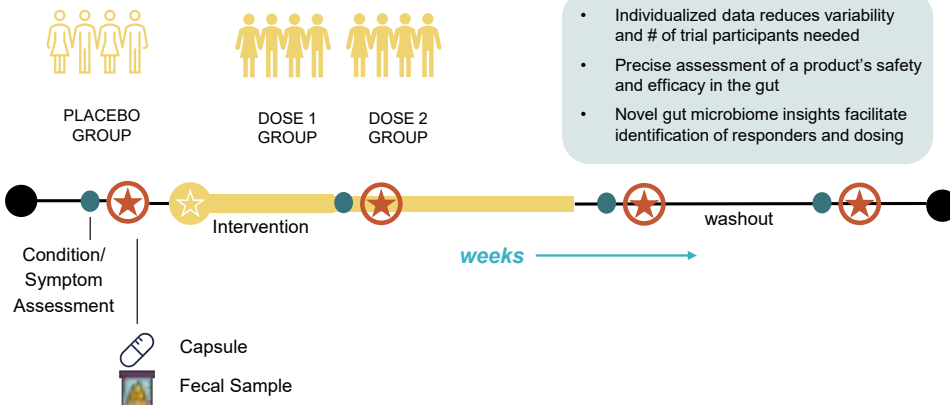
Contact us to review the data with us



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Use Case

Evaluating a product's impact over time



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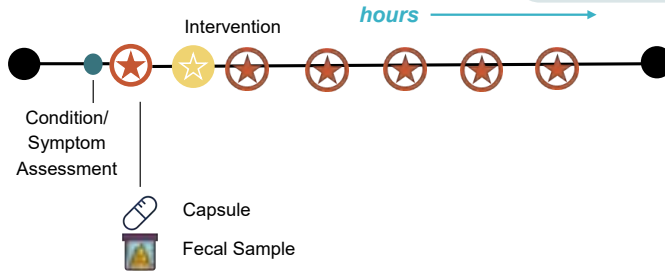
Use Case

Evaluating a product's impact in real time



The GROUP

- Multiple intestinal sampling allows dynamic response tracking
- Assessment of bioavailability of interventional product through oral route / gut barrier
- Timestamped intestinal samples facilitate revealing Mechanism of Action (MOA)



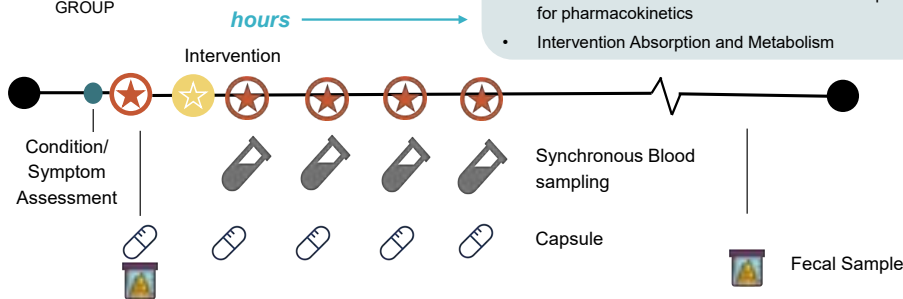
Use Case

Coordinating Systemic Responses



The GROUP

- Sampling at specific timepoints crucial for studying immune responses
- Targeted sampling capsules provide localized information about inflammation
- Correlation between intestinal and blood samples for pharmacokinetics
- Intervention Absorption and Metabolism





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Advances in Product Testing with the SIMBA Capsule

Accurately tune dose response and assess colonization

Directly assess MoA in small cohorts, avoiding confounding variables

Target product development to relevant microbial challenges

www.nimblesci.com