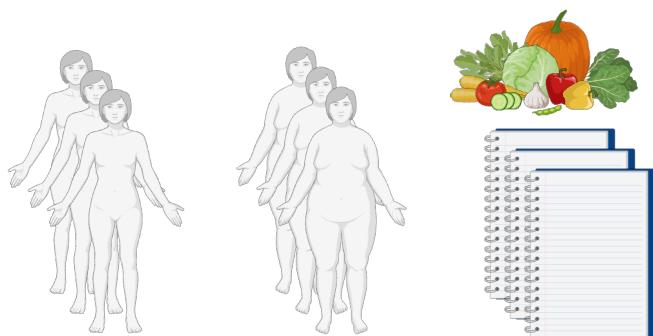
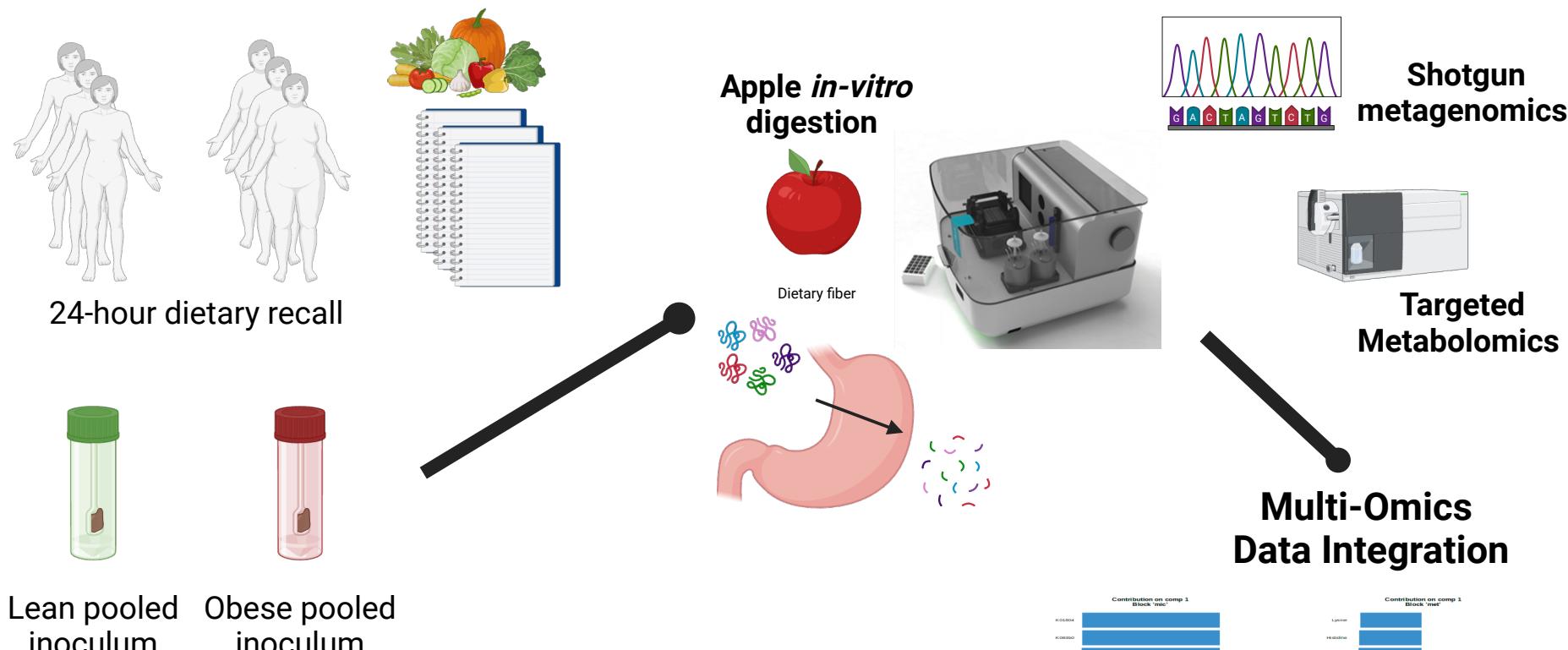


## Group profiling and sample pooling (e.g. Obese vs Lean)



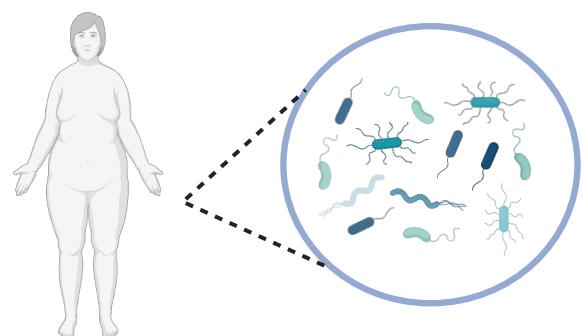
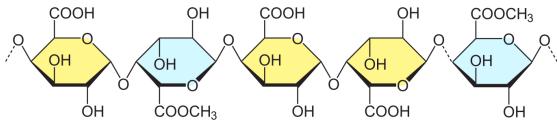
24-hour dietary recall

## Microcolonic *in-vitro* fermentation and multi-omics analysis



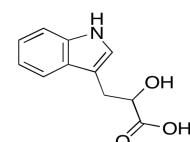
Lean pooled inoculum      Obese pooled inoculum

### Apple pectin



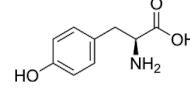
Enrichment in bacteria with aminoacids requirements (e.g. *Megasphaera* sp. MJR8396C)

Synthesis of indole phenolic acids (e.g. IPA, ILA)



Tailored dietary intervention targeting on the obese gut microbiota in comparison to a lean one

Depletion of essential amino acids (e.g. phenylalanine, tyrosine, methionine)



### Multi-Omics Data Integration

