

of Metabolomics

A rapid increase in the adoption of

From early medicine to the modern day

metabolomics in drug development is filling the gaps left by genomics and proteomics.

7,000+ studies funded by industry alone.2

1.7M+

publications

The proof is

in the data:

used metabolites or lipids as endpoints.

Over 18k

clinical trials

on metabolites and lipids.1 However, metabolomics has not always been considered a standard tool in the drug development toolbox. Despite

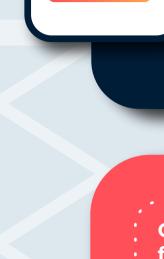
treatment of disease, metabolomics has long been overshadowed by other 'omics – until recently.

its deep historic connection to the diagnosis and

we get here? **Ancient History** diabetes Middle Ages other biofluids to diagnose health

How did





first metabolic pathway maps Roger Williams introduces notion of "metabolic patterns" in late 1940s. ► Archibold Garrod develops concept of inborn errors in metabolism (IEMs) and connection between heredity (genes), metabolic

composition & phenotype

Otto Heinrich Warburg, Gertrude Cori, Hans Adolf Krebs reveal 1900s - 1960s

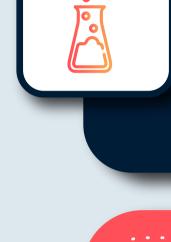
Horning, et al. introduce term "metabolic profile" in 1971

The term "metabolome" was coined by Steven Oliver in 1998

in metabolomics in 1995



"Golden Age of Biochemistry"



Use of metabolomics applied across a wide range of biological inquiry

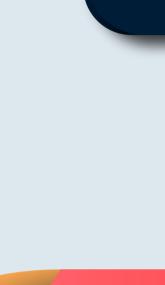
1970s - 2000

Initial wave of metabolomic studies published between 2000 2000 - 2010 Human Metabolome Project established in 2007

Drug development and applied sciences companies begin adopting

Gary Siuzdak, Richard Lerner and Benjamin Cravatt perform one of the first experiments using liquid chromatography and mass spectrometry





2010 -

Present Day

advance drug development and approval

metabolomic tools



trial space to:

in the drug development and clinical

Elucidate mechanism of action

Evaluate

PK/PD for

drug dosing



Stratify

patients by identifying

responders/

non-responders

Translate

Identify

targets

for drug

development

Interpreting the vast amount of

An extensive library of metabolites

takes time to build and validate

experienced service provider.

data is arduous

Monitor

drug toxicity

Metabolomics is a powerful tool — but only in the hands of an Most labs lack the comprehensive metabolomics technologies or the equipment to handle accurate unbiased metabolite identification

Gain understanding of

host/microbiome

interactions



Who can get me there?

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biomarker discovery and drug

Metabolon sets the standard



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development.

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College of American Pathologists for diagnostic testing on human samples

of disease state and physiological reactions in the present time. The company offers scalable, customizable metabolomics solutions from discovery through clinical trials and product life-cycle management. Leveraging one of the world's most

deliver biologically relevant insights to address some of the most difficult and pressing questions in the life sciences, helping to accelerate research and product development success in the biopharma, population health, consumer

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by ready-to-use absolute

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1. https://pubmed.ncbi.nlm.nih.gov/ 2. https://www.clinicaltrials.gov/

200+ patents

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