

Top 10 Drug Discovery and Development Solution Providers in Europe - 2019

In the pharmaceutical industry, the process of developing nascent drugs to cure a disease is quite long, costly, and at the same time uncertain. In light of this, many experts in this space cite that the costs of developing new drugs can be reduced by the use of new technologies and with a deep understanding of biology. Albeit the objectives of drug delivery remain the same, the methods and techniques used in drug development continue to experience radical changes. In a nutshell, the standard approach to drug discovery is to identify a single molecular disease target and subsequently identify a compound that interacts and modulates with high specificity. Today, majority of the innovation reinvigorating the drug development methodologies seeks to access and integrate more information – about targets, compounds, and disease phenotypes. Next, the increasing size of chemical libraries and

high throughput screening (HTS) technologies have enabled thousands or millions of compounds to be screened and the concomitant increase in compounds have supplemented the urgency for the bioanalysis of metabolites, and a need for faster turnaround.

To assist CIOs maneuver in the right direction while adopting resilient Drug Discovery and Development Solutions, a distinguished panel of CEOs, CIOs, VCs, and analysts along with the Pharma Tech Outlook's editorial board has selected the leading Drug Discovery and Development providers in Europe. The companies featured in this edition demonstrate an ability to develop innovative technologies combined with outstanding customer service.

We present to you "Top 10 Drug Discovery and Development Solution Providers in Europe - 2019."

Human Metabolome Technologies (HMT)

recognized by  magazine as

TOP 10
DRUG DISCOVERY &
DEVELOPMENT
SOLUTION PROVIDERS IN EUROPE - 2019

An annual listing of 10 companies that are at the forefront of providing drug discovery and development solutions and impacting the industry

Company:
Human Metabolome
Technologies (HMT)

Key Person:
Ryuji Kanno, President
& CEO
Tom Hoshiba, President,
Europe
Takushi Oga, President,
Americas

Description:
A global metabolomics CRO and manufacturer of capillary electrophoresis-mass spectrometry (CE-MS)-based metabolome analysis

Website:
humanmetabolome.com/en

Human Metabolome Technologies (HMT) Giving Drug Discovery the Metabolomic Advantage

Found within any biological sample of living organisms, metabolomes are sets of small-molecule metabolites, produced as a result of physiological processes. Metabolomes can offer unparalleled insights into the interactions between different chemical components and their role in various physiological functions. Apart from traditional diagnosis, metabolic profiling of biological samples in drug discovery and development helps healthcare companies and researchers understand the mechanism of action, surrogate markers, and toxicity of potential drug candidates. Eliminating the potential toxic drug candidates before a clinical trial begins assists customers in saving billions of dollars. The critical application of this field of study has also seen a surge in metabolomics platform providers. Currently, the European market is on the verge of this tectonic shift that is redefining the traditional biomarker discovery and drug development processes through collaboration between pharmaceutical, academic, healthcare companies, and metabolomic platform providers.




Ryuji Kanno

Kanno, president and CEO of HMT says, "We want to help healthcare businesses explore the emerging opportunities in biomarker discovery and development, through CE-MS-based research and a unique set of metabolomic platforms."

Recently, HMT collaborated with a pharmaceutical company regarding an anti-cancer drug that was under preclinical development. This pharmaceutical company faced a challenge in deciphering the targeting mechanism. With the help of HMT's technology, they quantified traces of oxidative stress, mitochondrial functions, and energy deprivation in cellular physiology during the procedure. This discovery led to the advancement of multiple clinical trials, in which data collected through HMT's platform was used for discovering prognostic markers.

HMT can identify over a thousand chemical compounds and species of metabolites through its proprietary CE-MS technology. The company has conducted over 5,000 projects and contributed to over 400 publications. Their services have assisted various projects involving the efficacy/toxicity/tolerance mechanism of drugs in both in-vitro and in-vivo studies. In addition, to help in performing in-depth metabolome analysis, HMT developed an original software analysis platform along with measuring technologies like CE-MS, LC-MS, and MS/MS. For example, Basic Scan is a CE-MS-based metabolome analysis package that can be combined with a lipidomics offering using an LC-MS platform for biomarker discovery. Other platforms include C-SCOPE, a targeted analysis of 116 metabolites that constitute the core metabolic pathways involved in primary energy metabolism. HMT also offers F-SCOPE, a stable isotope-tracing service that allows for the tracing of labeled substrates, which is often used to elucidate activated metabolic pathways and fluxes.

Last year, HMT released ω Scan—the only platform developed using HMT's patented interface that utilizes CE combined with Fourier-Transform MS (CE-FTMS) to offer higher sensitivity and expanded coverage and the Lipid Mediator Scan, a new solution to measure lipid mediators of for immuno-metabolism assays. For 2019, HMT is looking forward to launching a new global initiative. Kanno says, "As the field of metabolomics grows, we are actively engaging with more pharmaceutical companies, expanding to newer fields of research and developing novel products." 



We want to help healthcare businesses explore the emerging opportunities in biomarker discovery and development, through CE-MS-based research and a unique set of metabolomic platforms

Human Metabolome Technologies (HMT), headquartered in Japan, is a market leader among metabolomics contract research organizations (CRO) and manufacturers of capillary electrophoresis-mass spectrometry (CE-MS) instrument for metabolome analysis. A leader in CE-MS technology in Japan, HMT develops metabolomics platforms that provide highly accurate qualitative and quantitative data for researchers. Examples of where such data proves to be pivotal are the elucidation of metabolic drug targets, monitoring of the Warburg effect in cancer, toxicity analysis of anti-cancer drugs and drug resistance mechanisms. HMT has an all-inclusive business model, and works with clients from start to finish, including strategic, statistical, and scientific support. Ryuji