Accelerating Drug Discovery

Leveraging the Orbitrap HRMS for met-ID & large molecule analysis

Summary

Technology has been playing a key role in drug discovery over the last few decades. But the rate at which it is changing the landscape, especially in large molecule research is getting faster. That is why Jubilant Biosys has continued to invest in the latest technologies, while also ensuring access to technologies like the synchrotron - with beam access in Europe and Australia

Enabling a faster and more effective path to clinical candidates

- Quick and accurate Identification of putative metabolites and soft spot identification at early stage to support lead identification and optimization
- *In vitro* and *in vivo* metabolic pathways identification and its structural elucidation covering both phase I and phase II metabolism (Met-ID across the species)
- Support lead candidate nomination with optimized ADME/PK/Tox profiles
- Carry out profiling, identifying, and analyzing metabolites using various *in vitro* matrices like in microsomes, S9, enterocytes, hepatocytes, recombinant metabolizing enzymes, blood and plasma among others.
- Early identification of formation of reactive and unique metabolites
- Chemoproteomic studies and fragment-based approaches to enable discovery

Breaking new ground

The latest step forward for the DMPK team at Jubilant Biosys is the addition of another advanced instrument that boosts its range of capabilities – the Orbitrap High Resolution Mass Spectrometer.

This now enables faster and more accurate metabolic profiling and helps deliver more value for clients.

Pushing boundaries with technology

Understanding Structure Activity Relationship (SAR) from the early lead identification to lead optimization stage is critical to identify the right clinical candidate to take into development.

Identifying metabolites [metabolite identification (met-ID)] is also a critical part of the process of discovering clinical candidates.

The Met ID capability at Jubilant Biosys is now supported by a state-of-the-art **Orbitrap Q Exactive Plus** High Resolution Mass Spectrometry (HRMS).

Better resolution, accuracy, and sensitivity, to accelerate drug discovery

Met-ID provides key insights into ways to improve the pharmacokinetic profile of compounds and identify potential issues that any metabolites may cause. The process, however, can be laborious and time-consuming. At Jubilant, we carry out met-ID from the early stages of our integrated drug discovery programs to achieve an optimized compound in the shortest period of time.

The unique design of the high-resolution mass spectrometer enables a higher level of resolution, accuracy, and sensitivity that cannot be achieved by conventional mass spectroscopy. It enables the identification of metabolites that could previously not be detected, along with determination of the chemical structure of metabolites in a short period of time. This helps not only to identify metabolic soft spots of the compounds but with further confirmation of putative metabolites with synthetic standards helps in designing molecules with balanced DMPK profiles.

Overall, HRMS adds value by helping programs at different stages of the discovery and development process, helping us provide superior services.

Chemistry Innovation Research Center
Greater Noida

Investigational New Drug Center
Noida

Integrated Drug Discovery Center
Bengaluru

Manufacturing Plant
Nanjangud

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For any further information on how Biosys can help accelerate your discovery programs, please contact bd@jubilantbiosys.com