Charnwood Molecular

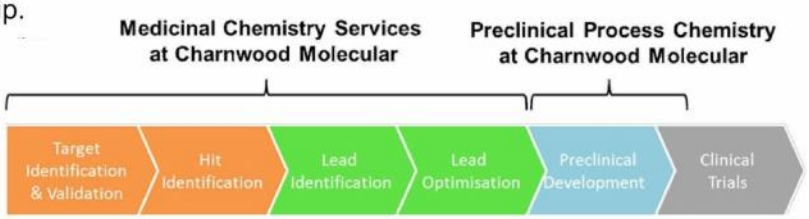
Excellence in Chemistry

A Synergistic Approach to Drug Discovery

Synthetic Chemistry: from Target Identification through Lead Optimisation to Preclinical Development

Charnwood Molecular has been providing expert synthetic chemistry support to the pharmaceutical industry for almost 20 years. More recently, we have seen a growing demand for our virtually integrated Drug Discovery services, which we provide through a dynamic network of trusted partners, allowing our clients to access the highest levels of expertise across the different disciplines of the Drug Discovery process in a cost-effective and synergistic manner. Our collaborators include many start-up companies and research institutes, all of whom benefit from a proactive and open approach, geared towards advancing projects towards important key decision points.

Many of our strategic partners are based on the same site as our Discovery Chemistry laboratories at BioCity, Nottingham, including Xenogesis (for preclinical DMPK), Aurelia Biosciences (for bio-assays and compound screening) and Reach Separations (for chiral purification and analysis). Additional collaborators include Computational Chemistry Resource (CCR, Ledbury, UK) and Hybrigenics (Paris, France), who provide molecular modelling and protein interaction assays respectively. Our synthetic chemistry clients can dial in these activities as required, as well as benefitting from Charnwood Molecular's experience in project leadership.



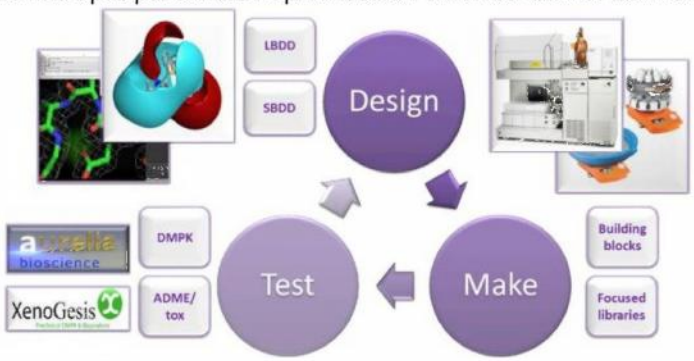
The core chemistry stages of the drug discovery process covered at Charnwood Molecular include:

Target Identification & Validation: where we can supply biological tool compounds in a timely manner at an appropriate scale to support your Discovery program and control costs.

Hit Identification: where we use a range of *in silico* screening techniques to identify new hits series. We also provide activity confirmation through compound resynthesis, followed by hit triage based on drug-like properties and further, early exemplification to provide initial SAR to support H2L.

Hit-to-Lead (H2L): where we can provide focused libraries for SAR, as well as scaffold hopping capabilities to move your projects into free IP space. We can also assess key ADME/Tox liabilities, allowing us to rank emerging hit series for LO.

Lead Optimisation (LO): where we work to an agreed target candidate profile (TCP), employing an iterative design-make-test cycle, as shown below, to enable multiple parameter optimisation with the aim of delivering a pre-clinical candidate.



Case studies highlighting our work at the different stages of the Drug Discovery process are available on our website.

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