



Article in Drug Discovery Today discusses impact of C4XD technology on structure-based drug discovery

Technology emerging as a valuable tool for designing new medicines

Manchester, UK, November 10 2013 – C4X Discovery (C4XD), a leader in conformational drug discovery and design, announces the publication of a new peer-reviewed paper in Drug Discovery Today examining the use of its technology in structure-based drug design¹. This paper follows the recent publication of the first peer-reviewed description of C4XD's technology in Bioorganic & Medicinal Chemistry².

In the new paper, 'The Conformational Musings of a Medicinal Chemist', Dr Harry Finch describes how, by providing unique insights into the 3D structures of drug molecules in both the bound and solution states, C4XD's proprietary NMR-based technology can identify conformational features that are critical to target binding and can be optimised to improve drug potency.

Dr Finch is a 30-year veteran of the pharmaceutical industry and currently holds the position of SVP, Therapeutics, of Pulmagen Therapeutics, as well as serving as a Non-Executive Director of C4XD and Pulmocide Limited. During his career, Dr Finch has held positions at Ciba-Geigy, Roche Allen & Hanburys and GlaxoWellcome, where he was Director of Chemistry and co-invented several successful drugs, including GSK's salmeterol (Serevent).

C4XD has the only technology in the world that can generate accurate, experimentally-derived 3D structures of drug molecules in just a matter of days. It can be used with existing technologies for structure-based design such as X-ray co-crystallography, but also when crystallography is unavailable, as is the case for certain GPCRs and ion channels.

Set against the current climate of declining productivity within the pharmaceutical industry, where increasing development costs and the limited availability of 'tractable' therapeutic targets have combined to drive down the rate of discovery of new chemical entities, Dr Finch's observations reveal the value of C4XD's technology in reducing the time and expense of finding drugs against previously intractable targets.

Dr Sam Williams, CEO of C4X Discovery, said, 'This latest publication provides an engaging, first-hand account of how C4XD's technology can be used to improve the efficiency of drug discovery, whether used in isolation or in combination with existing tools, such as X-ray crystallography and computational chemistry. That a seasoned medicinal chemist like Harry is willing to testify to the way that C4XD has changed his way of thinking about drug design bears testament to the power of our technology.'

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¹ Finch, H (2013). The Conformational Musings of a Medicinal Chemist. Drug Discovery Today. (http://eorder.sheridan.com/3_0/app/orders/3238/article.php#8)

²Blundell CD, Packer MJ and Almond A (2013). Quantification of free ligand conformational preferences by NMR and their relationship to the bioactive conformation. *Bioorganic & Medicinal Chemistry*, Volume 21, 4976–4987. (<http://dx.doi.org/10.1016/j.bmc.2013.06.056>)

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About C4X Discovery Ltd

C4X Discovery is a Manchester-based company focused on optimising drug discovery and design. It was founded in 2008 as a spin-out from the University of Manchester. The company uses its NMR-based technology to solve the dynamic 3D structures of a broad range of biomolecules, including peptides, cofactors, oligonucleotides and carbohydrates. Since C4X Discovery's NMR technology shows what shapes active molecules prefer to adopt, it provides high-quality templates for drug discovery and design, and valuable information for drug candidate optimisation. In addition, the data is generated faster and more reliably than standard techniques such as X-ray co-crystallography or molecular modelling. C4X Discovery has solved ligand structures for large pharmaceutical companies, is developing proprietary drug programmes and has a strategic R&D collaboration with AstraZeneca. It has been funded since inception by life-science investor Aquarius Equity Partners. www.c4xdiscovery.com.

About C4X Discovery's technology

C4X Discovery's NMR technology determines accurate 3D structures of drug molecules in solution without the need for structural information for the target. These structures are predictive of the bioactive conformation and thereby provide researchers with valuable information on how to improve development-stage compounds. This new information should improve the efficiency and quality of the lead identification, lead optimisation and candidate selection stages of drug discovery programmes.