About NiKem

NiKem was formed in 2001 from GSK's Milan Research Group to offer a range of services from hit generation to preclinical candidates. The aim was to offer "big Pharma Experience at small Biotech speed".

Since then they have tripled their staff and increased their research space and technology platforms with the addition of an automation laboratory, more wetlabs, GLP Bioanalysis, toxicology services and MS imaging.

In that time, they have completed more than 80 medicinal chemistry projects, with 8 compounds approved by clients' Review Board as selected candidates for preclinical development with several progressed to clinical studies.

NiKem is very much a research company. NiKem scientists have 55 publications in peer-reviewed journals covering medicinal chemistry, organic synthesis, ADMET & PK. And they are clearly proud of their staff.: 75% of scientists have more than 5 years experience (and some many more), while >95% of staff have PhD or MSc level qualifications.

They are also keen to stress that they do not compete with their customers. They do not run their own internal drug discovery projects, and though NiKem chemists are named as inventors on 45 published patent applications, all the IP on those patents is assigned to their clients.

Flow Chemistry at NiKem Research

NiKem purchased a Vapourtec R Series flow chemistry system in 2007 and makes full use of flow chemistry for a range of purposes.

Rod Porter, Director of Business Development for NiKem explains "Flow is extremely useful when sets of similar compounds have to be prepared. After the flow protocol is set up, it can be applied to reliably synthesize the whole set of compounds, often obtaining cleaner and faster reactions when compared to the batch process.

"NiKem's experience has been that sensitive reactions can be improved under flow conditions as a consequence of the efficient mixing and excellent temperature control.

"Furthermore, flow makes working with unstable, toxic, odorous or highly reactive species much more straight forward. The ability to perform sequential synthetic steps without isolating intermediates and the use of in-line supported reagents or scavengers is

proving a powerful approach for more involved synthesis. Finally, when lead compounds are identified, NiKem scientists often need to re-synthesize them on the multi-gram scale for in vivo testing or preliminary toxicology. This task is much easier when the synthesis has already been set up in flow, since the flow system is simply run for a longer time to obtain the required amount of final product.

"The combination of flow chemistry with other techniques such as microwave chemistry, sonochemistry and photochemistry, is under active exploration in house".

Now, as well as applying flow chemistry to client's projects, NiKem provide support for flow chemistry method development and consultancy.

They recently broadcast a free Webinar, showing some of the flow based approaches and reactions they have used in flow. A copy of the recording is available here (http://www.mediafire.com/file/5vsox4ob44g1095/NiKem%20Research%20flow%20chemistry%20webianr%20March%202011_0002.wmv) as a 62Mb .wmv file. Also available is a copy of the slide pack used, posters related to the presentation and more click here to view these .pdf files. (http://www.nikemresearch.com/PDF/Flow%20chemistry%20webinar%20March%202011%20information.pdf)

Of course, while NiKem Research has built substantial experience of flow chemistry they are keen to stress that this is only a small part of NiKem Research's capabilities. Rod Porter points out: "We offer a full range of drug discovery services - all from our Milan site. These services include medicinal chemistry, *in vitro* pharmacology, extensive ADMET and PK support, mass.spec. imaging, early toxicology and GLP and GCP bionalaysis".

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