

# The Biotech Supremacy

The US may still be leading the world pharma race, but a recent survey shows that innovation in biotechnology has secured the UK's position as the number two place to conduct pharmaceutical research. Martyn Postle reports.

Earlier this year Cambridge Healthcare and Biotech (CH&B, UK) conducted a review into the current state of the biotechnology industry in the UK and presented the initial results at Bio 2007 in Boston. CH&B also looked at the current output of the most productive 25 countries in the world to see whether the investments that have been made in pharmaceutical R&D in South East Asia have already had an impact on the world pipeline.

It won't be news to anyone that the US still reigns supreme as the most productive place to do pharmaceutical research. However, what may surprise is that the UK is number two in the world — and by quite a long way.

The chart in Figure 1 shows UK companies have twice as many pharmaceutical products in active development as Japan, the country ranked number three on the global scale. It is also the case that some of the output from US companies is the result of UK-based research. For example, Prozac from Eli Lilly and Viagra from Pfizer were both the fruits of the respective companies' UK-based research facilities.

As far as Asian countries are concerned, it is probably still too

early to see the true output from recent R&D investment programmes in countries in the south east of the region, but already the combined output from South Korean-headquartered companies puts that country 10th on the global scale, with the output from Chinese companies being ranked 21st. Taiwanese companies are in 23rd place and Hong Kong companies are 25th. Our bet for the future is that these countries will move rapidly up the global rankings and be joined by other Tiger nations such as Malaysia.

If we look at the situation in Europe, then the UK is even more dominant, producing 35% of all pharmaceutical products discovered here. Figure 2 shows that output from UK companies is almost three times ahead of France, the second most important country in Europe for drug discovery.

The data from Figures 1 and 2 includes the output from in-house research from major pharmaceutical companies, so we also looked at the UK without GlaxoSmithKline (GSK) and AstraZeneca (AZ). As can be seen in Figure 3, the UK's two global pharmaceutical companies account for around a quarter of UK output, but almost 50% comes from smaller biopharma companies in the so-called

‘golden triangle’ of Cambridge, London and Oxford.

The quality of UK universities is cited as one of the reasons behind the UK’s strength in this area. The top four research universities in Europe are in the UK, with Imperial College and University College joining Oxford and Cambridge. Globally, Cambridge ranks at number four, with Oxford coming in at number 10 (Table 1), so perhaps the geographic split of research in the UK is not surprising.

The survey also highlighted the UK’s particular strength in certain therapy areas, in particular CNS (psychiatry and neurology), oncology and drugs for treating asthma and other respiratory diseases. Across these three therapy areas alone, the UK had 325 products in active development within 61 companies (Figure 4).

The excellence of UK research has also attracted increasing numbers of major, international pharmaceutical companies to the UK biotech community — often through acquisitions. Acquisitions of UK biotech companies seem to be accelerating rapidly. In the early part of this decade only one or two UK biotech companies per year were being acquired. However, in the first four months of 2007, ten UK biotech companies were taken over, making this almost certain to be a record year. However, despite this recent activity, many high quality UK assets remain (Figure 5).

In Cambridge it seems that pharmaceutical companies are falling over themselves to purchase local talent. For example, at the end of last year, GSK announced it would be acquiring Domantis for £230 million; Arakis has now become part of Sosei; BioFocus has become part of Galapagos; and Solexa is now part of Illumina.

It is highly likely that the current biotech acquisition frenzy is not only driven by the need for pharmaceutical companies to plug gaps

in their portfolios, but also by the increasing values ascribed to high quality licensing deals (even early-stage deals) compared with the low values ascribed to pharmaceutical companies in Europe. In many cases it has become cheaper to buy the company than license the product, although it is just as likely that the driver can be a venture capitalist (VC) investor looking for an exit. As one executive director of a top 10 pharmaceutical company said recently, “The issue of acquisition or license seems to be the other way around — Big Pharma wants to license a product and the VC immediately sniffs an exit and starts an auction.”

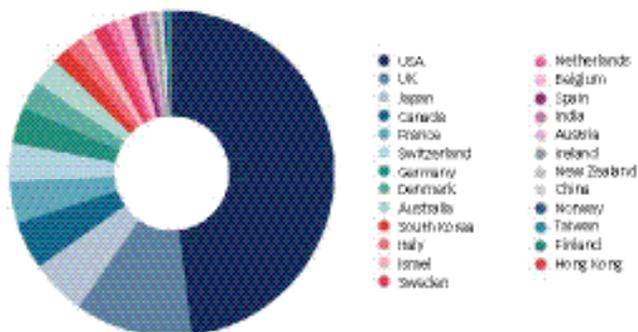
We probably now have a situation where “discovered in the UK”

**Table 1** Academic ranking of European Universities.

Rank	University	Global rank	Country
1	University of Cambridge	4	UK
2	University of Oxford	10	UK
3	Imperial College London	23	UK
4	University College London	25	UK
5	Swiss Federal Institute of Technology (ETH Zurich)	27	Switzerland
6	University of Paris 06	39	France
7	University of Utrecht	42	Netherlands
8	University of Copenhagen	46	Denmark
9	University of Manchester	48	UK
10	University of Paris 11	52	France

**Figure 1:** The world’s R&D pipeline.

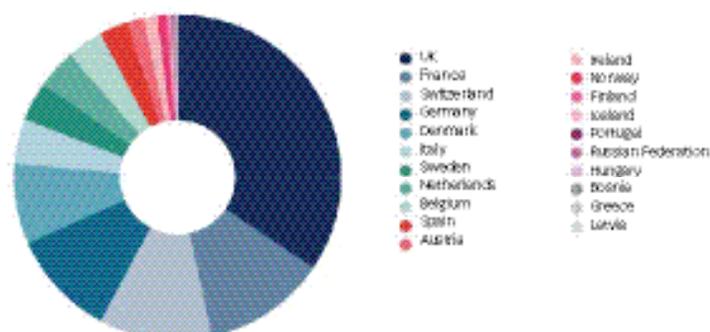
Output from the US biotech and pharmaceutical companies dwarfs all others, but the UK has the number two R&D pipeline in the world — more than twice as big as that of Japan, the third largest.



Source: PharmaProjects & Cambridge Healthcare & Biotech (CH&B), April 2007

**Figure 2:** UK pipeline: Number 1 in Europe.

The UK has the largest life science R&D pipeline in Europe. Producing 35% of all pharmaceutical products discovered in Europe, the UK is almost three times ahead of France, the second most important country in Europe for drug discovery.



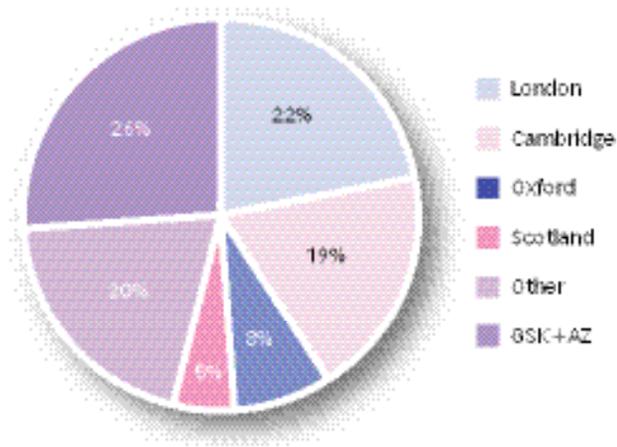
Source: PharmaProjects & CH&B, April 2007

is in a very healthy phase, “developed in the UK” is fairly good, but “commercialized by the UK” is becoming more difficult. To use another quote from an executive director of one of the UK’s best biotechnology companies, “Given the current environment, the chances of any UK biotech company evolving all the way to become an integrated pharmaceutical company before being acquired is

about the same as all the planets lining up.”

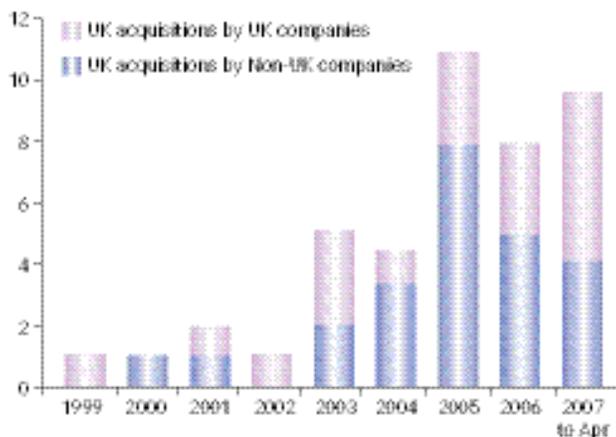
But it is a testament to the quality of UK research that so many pharmaceutical companies are camped out in hotels in the Cambridge vicinity, trying to prise these gems from the clutches (mainly) of VC investors — and it is a task made easier by the difficulties that these investors have had over the past few years in effecting an exit through public markets.

Figure 3: Number of UK projects by location of originator company.



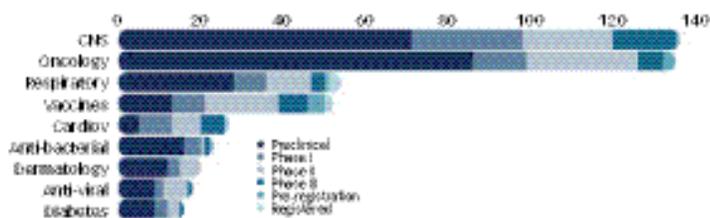
Source: CH&B, April 2007

Figure 5: The strength of UK-based research has also led to an acceleration of acquisitions of UK biotech companies.



Source: CH&B, May 2007

Figure 4: UK Pipeline – key therapy areas.



Source: CH&B, April 2007



**About the Author**

Martyn Postle director and founder of Cambridge Healthcare & Biotech (CH&B, Cambridge, UK), His 27 year experience in the healthcare industry includes management positions with Eli Lilly and Rorer Healthcare in the UK. Prior to founding CH&B, Martyn was a senior vice president of Cambridge Pharma Consultancy, and spent three years with Dresdner Kleinwort Benson. He is currently a co-chair of the UKTI’s Taiwan Britain Business Council and is a lecturer at the University of Cambridge’s Institute of Biotechnology.

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