The *Discussion Forum* provides a medium for airing your views on any issues related to the pharmaceutical industry and obtaining feedback and discussion on these views from others in the field. You can discuss issues that get you hot under the collar, practical problems at the bench, recently published literature, or just something bizarre or humorous that you wish to share. Publication of letters in this section is subject to editorial discretion and company-promotional letters will be rejected immediately. Furthermore, the views provided are those of the authors and are not intended to represent the views of the companies they work for. Moreover, these views do not reflect those of Elsevier, *Drug Discovery Today* or its editorial team. Please submit all letters to Steve Carney, Editor, *Drug Discovery Today*, e-mail: S.Carney@elsevier.com

The quiet revolution: outsourcing in pharma

The pharmaceutical industry has always outsourced some of its activities. Perhaps 40 years ago the only activities to be outsourced were pertinent to the marketing of the products in the areas of advertising, market surveys etc. Some 30 years ago outsourcing was broadened to include aspects of formulation, clinical trials and registration. Another 10 years on most of the development and registration processes could be outsourced and this was practiced where capacity and specialist techniques were required. 10 years ago there was a jump to include the early stages of target identification and in the production of compounds to expand collections. Hit to lead and lead optimisation remained the only parts hardly touched by outsourcing but, as we now see [1], the final piece is in place. All parts of the process can and are the subject of regular outsourcing from the largest to the smallest of pharmaceutical companies. Where does the trend take us?

Philip Brown, the publisher of Scrip, has long maintained that major pharma has passed the point where it can, by its own research, maintain its product pipeline in a way to sustain its top and bottom lines. It could in future continue to grow only by the acquisition of compounds, either directly by licensing or partnering or indirectly by assimilation of other companies. The recent acquisition of Pharmacia by Pfizer and the current one of Tularik by Amgen illustrate this trend. A recent survey [2] starkly brings to light another 'quiet revolution' that of in-licencing R&D projects: 44% of products in development from the top 10 companies are under licence, with a range of 36%–56%. Drugs are being in-licensed at earlier stages. Although all pharmaceutical companies avow their policy to be to licence in late stage candidates, there are few good Phase IIb compounds available and the move is to seek earlier opportunities.

So, looking at outsourcing in a broader context are these two trends one and the same? If we can outsource all stages of the process, is that any different to contracting somebody to do your R&D for you, or different to bringing in early, mid- or late-stage compounds where somebody else has taken the early risk? Is the real implication of this quiet revolution that in-licencing or partnering early projects is equivalent to outsourcing? The developments within outsourcing companies would support this view. One of the earliest companies in the sector, Arris, moved from providing chemistry services to develop protease projects internally for partnering. Following its change to Axys it continued its own research looking to out-licence in clinical phases and was then acquired by Celera with essentially the same aim in mind. Arqule followed a similar path – moving to provide oncology compounds, Argenta have their histone deacetylase project [1] and we have developed pipelines in kinases and GPCRs.

References

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JAK kinase inhibitors

The recent *Drug Discovery Today* review *Inhibitors of JAKs/STATs and the kinases: a possible new cluster of drugs* by Luo and Laaja [1] gives a good overview of the relevance of JAK/STAT signalling as a target for therapeutic intervention in various disease states. Indeed, there are numerous disclosures in both the scientific and patent literature describing the identification of small molecules targeted to this important signaling cascade.

The authors identify several of the publicly disclosed JAK kinase inhibitors but give only brief mention to the most significant development to date, the Jak3 inhibitor CP690,550 from Pfizer [2], and neglected the selective 'pan-Jak' inhibitor reported by researchers at Merck [3]. Importantly, data presented in the Changelian *et al.* publication [2] shows that the current 'literature standard' JAK inhibitors WHI-P131, WHI-P154 and AG490 are weak (IC_{50} >3μM) and show quite poor

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