

## BIOBUSINESS BRIEFS

## DEAL WATCH

## Trends in discovery externalization

From 2005–2009, there were 306 reported licensing deals between biotechnology and top-20 pharmaceutical companies for R&D assets, compared with 238 during 2000–2004 and 180 during 1995–1999 (FIG. 1a). This represents a period-on-period increase of ~30% in overall deal volumes, which indicates that large pharmaceutical companies are increasingly adopting externally focused strategies to augment pipelines and expand portfolios.

Phase II clinical development has traditionally been considered the ‘sweet spot’ for such partnering deals. However, the breakdown of deals by development stage indicates that large companies are pursuing greater numbers of early-stage deals (FIG. 1a). Although the proportion of preclinical deals has remained relatively constant for each period — accounting for around half of all deals — there has been a significant shift towards earlier stage partnering for clinical assets. During 1995–1999 and 2000–2004, ~22% of deals between pharmaceutical and biotechnology companies were for Phase II assets, whereas Phase I deals accounted for only 15%. More recently, this position has reversed: the number of Phase I deals doubled from 35 during 2000–2004 to 70 during 2005–2009, constituting 23% of all deals for the latter period. By contrast, the number of Phase II deals increased only marginally from 51 to 54, representing 18% of all 2005–2009 deals.

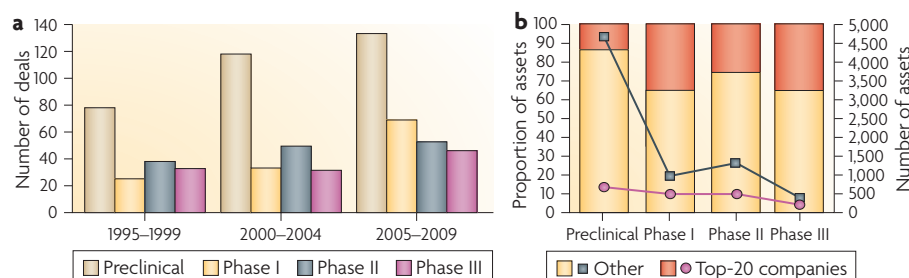
Although the growth in early-stage deals is likely to reflect increasing competition for later-stage assets, this trend may also indicate changes in the factors influencing R&D supply and demand. On the supply side,

biotechnology companies with innovative early-stage assets but insufficient funding are more readily positioning themselves as discovery partners and/or acquisition targets for large companies. New discovery organizations emerging from academic, government and charity sectors are also becoming more prominent. On the demand side, large companies are increasingly externalizing discovery activities (Supplementary information S1 (table)) with the aim of capitalizing on the relative abundance of early-stage innovative technologies. According to the Pharmaprojects database, 88% of active preclinical assets currently reside outside large pharmaceutical companies, compared with 64–73% of clinical-stage assets (FIG. 1b).

By partnering early, pharmaceutical companies also gain more control of development and commercial strategies, although the high-risk nature of early-stage assets presents challenges in terms of business development and alliance management. The key to successfully externalizing discovery lies in the ability to effectively integrate internal and external activities. This requires a rigorous capability for identification and evaluation of early-stage opportunities; an approach to deal-making that reflects the nature of discovery deals and the typically diverse range of stakeholders; and investment in infrastructure to support collaborative projects.

*Stephen Mayhew is at Kinapse Ltd, Tuition House, 27–37 St George's Road, Wimbledon, London SW19 4EU, UK. e-mail: [stephen.mayhew@kinapse.com](mailto:stephen.mayhew@kinapse.com)*

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**Figure 1 | Deal-making trends. a** | Number of deals reported between biotechnology and top-20 pharmaceutical companies classified by development stage. **b** | Active preclinical and clinical assets owned by or under exclusive licence to large pharmaceutical companies. The line charts represent the number of assets at each stage and the stacked bar charts represent the proportion of assets within top-20 pharmaceutical companies. Source: Pharmaprojects.