Pharma pursues novel models for academic collaboration

Pharma collaborations with academic institutions highlight close bilateral partnerships as an emerging trend in pharmaceutical discovery and translational science.

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Since early June this year, there has been a flurry of announcements from pharmaceutical companies embarking on collaborations with academic institutions. GlaxoSmithKline (GSK), for example, has teamed up with the Immune Disease Institute, Boston, USA, aiming to become a world leader in immuno–inflammatory drug discovery; AstraZeneca will work with Columbia University Medical Center, New York, USA, to develop novel therapeutics for diabetes and obesity; and Pfizer aims to advance drug discovery across many therapeutic areas with the University of California in San Francisco (UCSF), USA.

Of course, academic groups have been identifying targets, molecules and disease models that feed into drug discovery and development for decades, although the extent to which pharma has looked to academia for such ideas has varied. "The pendulum on this swings back and forth," says Rudy Leibel, Head of Molecular Genetics and co-director of the Naomi Berrie Diabetes Center at Columbia University Medical Center, who will be working with AstraZeneca. "There have been times when pharma has successfully conducted basic and translational research in-house and others when they have focused more on bringing in research ideas from the outside."

A closer look at the three recent collaborations seems to indicate a change in big pharma's approach to academic collaborations. In each case, the overall aim of the programme is to advance research in areas of mutual interest to both partners, with joint decisions steering the research directions. "There is a much stronger emphasis on true interchange between the scientists," says Leibel with regard to the AstraZeneca agreement. This view is corroborated by both Corey Goodman — president of Pfizer's Biotherapeutics and Bioinnovation Center, who set up the collaboration with UCSF — and Jose Carlos Gutierrez-Ramos — Senior Vice

President and Head of the Immuno–Inflammation Center of Excellence for Drug Discovery at GSK.

"[The academic] community has often been shy of big pharma because they believe that when they license something it is taken away and they never hear about it again… we want to change that perception, to do things differently and engage and cooperate with them," says Goodman.

Gutierrez-Ramos also aims for his group to be more like a partner to the Immune Disease Institute in Boston than simply a source of funding. "In pharma, our discovery work can be absolutely enhanced by a scientific leader in academia. Conversely, how far the principal investigators can push their discoveries, in terms of having an impact on patients' lives or in disease is limited," he explains. "We are committed to exploring this type of partnership to capitalize on their science and on our ability to develop drugs."

Leibel also sees the collaboration between Columbia University Medical Center and AstraZeneca as a reciprocal agreement in which both parties will get some overlapping benefit. "AstraZeneca will scrutinize the work very carefully for productivity with regard to ideas, models, even molecules that might be exploitable by them. On the Columbia side, it gives us the opportunity to advance areas of research that are not covered by other external sources of funding."

In an era of increasing public funding emphasis on translating basic academic research into the clinic, both Goodman and Gutierrez-Ramos agree that big pharma can help bridge the translation gap through partnerships with academic institutions. "Academia can get deep insight into how to design drugs in terms of toxicology, safety and pharmaceutical science — all the things that are really the specialty of big pharma," says Goodman.

One challenge that Susan Gasser — Director of the Friedrich Miescher Institute, part of the Novartis Research Foundation, based in Basel, Switzerland — emphasizes is ensuring that both sides understand one another's needs. From her experience: "Academic scientists need to familiarize themselves with pharmaceutical problems, standards and the language," she says. In addition, Gutierrez-Ramos says that GSK is working to ensure that the people in their centres know the value of scientific excellence and allow it to be disseminated, at the same time as planning to be transparent and good enough partners to persuade collaborators of the long-term value of experiments such as pharmacological characterization.

Another significant barrier to collaborations in the past has been the traditional waiting time of 6–9 months to sign a confidentiality agreement before work could begin. To prevent this, Pfizer and UCSF have signed a blanket confidentiality agreement in advance to allow swift submissions and approvals for identified projects. "This should make it more user friendly for Pfizer and UCSF scientists to work together," Goodman explains.

Overall, the aim of these collaborations is to reduce the lead time from basic academic research to the stage when traditionally pharma is interested in in-licensing the product, which could be between 5 and 10 years. "What we are trying to do by partnering earlier on is to get to that hypothesis in disease faster, in a way that is mutually beneficial — certainly for society but also mutually beneficial for the principal investigator and the organization," concludes Gutierrez-Ramos.