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profile feature



Duncan Holmes, Head of GSK's Discovery Partnerships with Academia (DPAC), Europe

In late 2010, GSK launched its Discovery Partnerships with Academia (DPAC) program to bring together the insight and creativity of the academic world with pharma's drug discovery expertise to establish partnerships that can translate innovative research into medicines that benefit patients. To support the formation of these partnerships, GSK initiated the Discovery Fast Track Challenge in 2013. Researchers from North America and Europe are invited to submit proposals describing their idea for the discovery of a new medicine. GSK selects the most promising concepts, and researchers have the opportunity to partner with DPAC investigators to screen their targets using GSK capabilities and resources. Duncan Holmes, the head of GSK's European DPAC, spoke to Nature about the Discovery Fast Track Program. He is a medicinal chemist and drug discovery expert with more than 20 years of pharma industry experience. The deadline for entrants is April 24. For more information, go to www.gsk.com/discoveryfasttrack.

Q: What is GSK's primary goal for the Discovery Fast Track Challenge?

Our goal is to discover new medicines that will benefit patients. Academic researchers excel at performing basic research and discovering new targets that are implicated in disease, but they often do not have the resources or expertise to turn those discoveries into therapeutics. This challenge is an opportunity for researchers in the U.S., Canada and Europe to submit a biological target to us, and then we can combine our efforts to use GSK's extensive platform technologies, capabilities and compound library to discover molecules that have biological potential. These efforts may eventually turn into longer-term DPAC collaborations where we work together to develop the research further, and hopefully into new medicines.

Q: How does the process work?

Principal investigators are invited to submit a one-page, non-confidential proposal that is evaluated by an expert panel of judges. We choose finalists and invite them into a GSK site in Europe or the U.S. to spend a day with us to discuss their proposed drug discovery collaboration. This is an open, two-way discussion in which finalists have a chance to talk about their proposal in detail with an array of drug discovery and development experts.

Q: Who should be interested in this opportunity?

Academics who have worked in their area of expertise for many years would be most likely to benefit. These are the people who might have insight into a particular disease area or biological mechanism that no one else has. Also, investigators who have found targets whose

modulation might have an effect on disease, or who are ready to take the next step but don't have access to the capabilities to discover quality compounds that can modulate the target. This is where GSK can step in and coordinate our capabilities to help discover biologically active compounds.

Q: How does GSK benefit?

We want to partner academia's expertise in disease biology with our drug discovery expertise, and then work as a team to identify novel compounds with biological activity. We have monthly project meetings in which we discuss progress, challenges and how we can work together to figure them out. We also may visit each other's labs, but this program is not about the movement of people; it's about the movement of ideas.

If we discover molecules with activity, then we may give some molecules to the researchers to help them further unravel the biology of disease. If there is potential to turn this research into a medicine then we may form a full DPAC collaboration.

Q: What constitutes a successful proposal?

A clear hypothesis is important; for example, if you modulate a certain target or pathway then there will be a beneficial effect on a patient. There also needs to be a target or pathway that is being affected so we can understand the pharmacology. Researchers also need to have some enabling expertise that we don't have, because for a really effective partnership, each side needs to have different expertise. Also, targets need to be tractable so that a drug-like molecule can be generated, and then these compounds can be evaluated effectively for efficacy and safety in the clinic.

Q: How have successful applicants benefitted from the challenge?

Winners work with GSK scientists to screen their targets using our platforms and extensive library of about two million compounds. To maximize the probability of success, each academic has a DPAC scientist who is a co-leader for the project's lifetime, and that person will bring experts together to progress the project. We had eight winners in the 2013 challenge, which was for U.S. and Canadian researchers only, and a number of these projects are identifying active molecules that may be of interest. In 2014, the first year we expanded the challenge to include Europe, we had applications from 234 academic institutions in 26 countries, and 15 winners were selected.

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Q: How can applicants benefit if they're not selected?

Finalists get to visit and talk with our experts, who will be looking at the project from a translational perspective. Our experts provide written feedback to each finalist, even if they are not selected. So at the very least, the process gives the academics an interesting day and maybe some new ideas to take back to the lab. There is something bigger here than just reviewing the opportunity; we also give advice on drug development that they may not have received in the past. They may take this new perspective into consideration when planning their future research.

Q: What is your favorite part of the process?

Without a doubt it is the onsite meetings with the finalists. Bringing people together from different backgrounds is exciting and generates a creative environment. I enjoy that interaction: Getting together people with different backgrounds, expertise and perspectives, and looking for common ground on how we can take these ideas forward. This is the first step to finding the right R&D pathway, to move in the right direction and provide for the best chance of success.