

Two heads are better than one

Dr Campbell Wilson of AstraZeneca tells *Pharmaceutical Outsourcing Decisions* about the importance of forging discovery alliances with research scientists worldwide to get new products to market quickly.



Dr Campbell Wilson

The breakthrough drugs of the future are being developed by scientists from a broad spectrum of organisations. While the final pill will be produced and marketed by one of the world's large pharmaceutical companies (pharmas), the groundbreaking science that goes into making any new product is just as likely to have come from a small team working in a university laboratory as from employees of Pfizer or GlaxoSmithKline. The largest firms have the financial muscle to see a development project through to its release, but they have to bring in the best global research prospects from around the world to ensure their product portfolio is ahead of that offered by the competition.

Senior scientists at the big pharmas are dedicated to bringing interesting research projects into the company where cash and management expertise can be invested to develop a marketable drug. Fulfilling this role for AstraZeneca is Dr Campbell Wilson, who heads up a team dedicated to forging discovery alliances with oncology and infection specialists. While a scientist in his own right, he has little hands-on control of the projects he brings in. His primary role is to sit above the research teams and direct their work, looking after any legal, financial or intellectual property issues that may arise, both when drawing up contracts and once a project is under way.

Collaborations and licensing

Dr Wilson explains: 'I am part of the discovery organisation within AstraZeneca where we are organised in terms of therapy areas, including cancer and infection; CNS [central nervous system] and pain; cardiovascular and gastrointestinal; and respiratory and inflammation. Between these, we divide our efforts on collaborations and licensing. My group, discovery alliances, handles anything from the very start of research to when a compound has passed through all the discovery stages – that is, before it goes into clinical trials and development. We also have teams working within our global licensing group that are responsible for bringing

in compounds already in development. My team's main job is to search for the most interesting prospects and to set up collaborations.'

Corporate priorities

Historically, in terms of global sales, AstraZeneca's biggest therapeutic areas have been gastrointestinal, followed by cardiovascular and cancer. However, the opportunities for future growth may be different, and AstraZeneca will prioritise its resources for internal research and discovery alliances in line with market growth potential.

Dr Wilson continues: 'Within the cancer and infection area, there are several hundred people working in drug discovery, mainly scientific research staff who are located both in the UK and in the USA. My role is focused on a number of different tasks. The first is working with the senior research management team to decide which parts of the department strategy we will accomplish through externalisation. My second responsibility is to identify the external providers that can satisfy the strategy. I then coordinate the scientific evaluation of what a particular research institution has to offer, negotiate the terms of the partnership once we have found the specific compound or project we are looking for, and finally set up the management structure to control the relationship once it is in place.

'All the large pharmas are competing for the breakthrough science opportunities in the research market. Within a particular therapy area, the large companies will probably spot the same quality compounds and projects, and it then comes down to persuading that team of scientists that AstraZeneca is the best firm to collaborate with. We take the concept of being the preferred partner very seriously, and there are many ways in which we can sell our company to potential allies.

'From the feedback we have received from our existing partners, we have found that people come to us because of the quality of our scientists and research. They want to work with top-quality scientists, and we ensure that we put together a discovery alliance team that can support their work and look after that relationship. AstraZeneca has also been particularly successful as a development and marketing organisation, and people can

see that we develop important new cancer treatments quickly and get them to the doctors and patients who will benefit from them.'

Flow of scientific knowledge

Dr Wilson's team manages oncology research projects until a product enters its development phase. Responsibility for managing the relationship then passes over to another team, and his group will get involved again only if the work requires further discovery input. Dr Wilson stresses that discovery alliances with AstraZeneca operate as partnerships where scientific knowledge flows in both directions.

'If we establish a relationship with a biotech company that has an interesting compound at a very early research stage, we will fund their scientists while also setting up frequent scientific project meetings,' he explains. 'We will open up lines of communication between AstraZeneca and its scientists to ensure that both parties are able to share information, and put in place a management committee that will oversee the relationship and steer the project. We see very little benefit in saying to a company: "Just go and get on with your research." Thanks to our approach, our partners can learn how a large pharma does things, and we can guide the output of their research so that it fits the criteria we need for it to be successful.'

'AstraZeneca still develops the vast majority of its new products through its internal R&D teams, but our external relationships are very important because we could not possibly do all the work we need to do ourselves. Having said this, collaborative relationships are growing in importance to AstraZeneca. We operate in an extremely competitive market, and in some ways, companies have to think of what they are good at and focus on that. We are good at R&D, but we cannot do it all.'

'At any one time, my discovery alliance department will have a large number of collaborative relationships running in parallel. We currently have a huge number of relatively small relationships with universities, along with a small number of large-scale strategic relationships with other companies. A good example of a strategic relationship is the one we implemented with Abgenix in October 2003. This was a crucial stage in AstraZeneca's strategy to move the company into biological therapeutics with a focus on monoclonal antibodies.'

Dr Wilson's work is guided by targets for the number of new compounds AstraZeneca's senior leaders wish to see released to market. These targets can be met either through internal or external research – each drug discovery department is free to change the balance between internal and external work as it sees fit in order to achieve its goals.

Contracts with external alliance partners are structured depending on the nature of the relationship. If the primary purpose of an alliance is to work on a compound that is already well advanced in clinical trials, AstraZeneca will structure the deal so as to be the owner of whatever comes out of that alliance. However, where the company is in collaboration on a compound

much further back in the research process, the ownership structure might be arranged differently.

The company's aim is not to pillage the scientific community for financial gain, but to create the conditions in which experts from within and outside the company can feed off each other to bring new and effective products to market as quickly as possible. Stressing this partnership ethos is vital in persuading potential allies to come on board.

Dr Wilson explains: 'We set up the discovery alliances team to be the conduit into AstraZeneca for research institutions. We establish networks between ourselves and academic and biotech communities worldwide. We also visit companies and universities and take up the opportunity to speak at major 'bio-partnering' conferences. At these events, we outline what our interests are, and as a result, we see a number of opportunities come to us which we then evaluate. We try to make our needs and interests as widely known as possible so people know what we are about. Conversely, if there is something very specific we are after, we will target certain universities or biotech firms directly.'

'Our prospecting activities are global, even though our research is primarily carried out at our bases in the UK, the USA and Sweden. Japan has long been a big pharmaceutical player, but recently it has been doing more and more work in biotech, and AstraZeneca has an important clinical development site there as well. Korea and Singapore are also growing in importance, as is India. We will look wherever we have to for the best science.'

Aiming high in oncology

Should AstraZeneca achieve its corporate goals, Dr Wilson's team will have played its part. The company has set its sights on strengthening its position in the oncology drugs market, and is using alliances to expand its product range. Dr Wilson says: 'Within the oncology market, we are focused on producing products across the board. We are interested in any opportunity that makes sense. We have traditionally concentrated on developing products to tackle solid tumours but, more recently, we have become interested in haematological cancers; and although we do not have any products on the market at present, we would certainly like to have.'

'Oncology is one of the largest sectors of the drug market, and is likely to grow further. I can see my department becoming increasingly important to AstraZeneca not only because the company is doing more work in oncology, but also because AstraZeneca is doing more research externally.' ■

AUTHOR

Dr Campbell Wilson is director, discovery alliances, the cancer and infection research area, at AstraZeneca.