

Professor Jacky Smith investigates whether AstraZeneca's deprioritised gastrointestinal drug could be a new treatment for chronic cough

Pharmaceutical companies investigate thousands of compounds, but few become medicines. What happens to all the compounds judged unsuitable for their intended purpose? Increasingly, academic researchers are invited to consider these deprioritised compounds for their own research interests, leading to novel discoveries and potential new treatments.

The MRC-Industry Asset Sharing Initiative funds academic researchers to investigate new roles for deprioritised pharmaceutical compounds. Originally an agreement exclusively between AstraZeneca and the MRC, the initiative has expanded to include dozens of compounds from six major pharmaceutical companies (AstraZeneca, GSK, Janssen, Pfizer, Takeda, and UCB).

Through this scheme Professor Jacky Smith from the University of

Manchester gained access to AZD3355, a GABA-B receptor agonist belonging to AstraZeneca. Previously investigated as a treatment for heartburn and gastroesophageal reflux, the compound had been deprioritised when it failed to produce the desired results.

Professor Smith is now investigating the compound as a treatment for chronic cough, a condition that affects an estimated 12% of the population. AZD3355 was well tolerated in healthy volunteers with experimentally induced coughing and is now being tested in a patient population.

For AstraZeneca, this scheme is about more than providing a compound. The company is keen to support researchers get the most value out of the compounds by sharing their knowledge of the drug. This may include information relating to its structure, pharmacodynamics, pharmacokinetics - even unpublished data from previous investigations.

“This project was born from our strong belief in the strength of UK science and in the important role that funding agencies like the MRC play in supporting the life sciences sector here.”

Mene Pangalos, EVP, Innovative Medicines & Early Development biotech unit, AstraZeneca ¹

“Getting access to the compound means an enormous amount... There have been no new treatments for cough in over 50 years, so there is so much potential for patients.”

Prof. Jacky Smith, University of Manchester ²

As a result of the scheme's success AstraZeneca and other companies have increased access to their deprioritised compounds by creating their own compound-sharing initiatives. Through their clinical compound bank AstraZeneca has provided compounds for over 30 investigator-sponsored clinical research projects. Furthermore, academic researchers are invited to view their preclinical toolbox, which offers access to over 250,000 compounds from AstraZeneca's screening library.

For more information about the MRC-Industry Asset Sharing Initiative visit: <https://www.mrc.ac.uk/funding/browse/mrc-industry-asset-sharing-initiative-2016/mrc-industry-asset-sharing-initiative-2016/#asset>

For more information about AstraZeneca's clinical compound bank visit: <https://openinnovation.astrazeneca.com/clinical-compound-bank.html>

For more ways to gain access to compounds from pharmaceutical companies, both for pre-clinical and clinical studies, search "Compounds" in ABPI LINC: <https://linc.abpi.org.uk>

¹ Source: <https://www.mrc.ac.uk/documents/pdf/mrc-astrazeneca-compound-sharing-case-study>

² Source: <https://www.mrc.ac.uk/documents/pdf/mrc-astrazeneca-compound-sharing-case-study/>