

## **ASTRAZENECA ONCOLOGY PORTFOLIO STRENGTHENED AS MEDIMMUNE ACQUISITION OF SPIROGEN BOOSTS ANTIBODY-DRUG CONJUGATE CAPABILITY**

### **Additional investment in and collaboration with ADC Therapeutics**

15 October 2013

AstraZeneca today announced that MedImmune, its global biologics research and development arm, has acquired Spirogen, a privately-held biotech company focused on antibody-drug conjugate technology for use in oncology.

MedImmune has also entered into a collaboration agreement with ADC Therapeutics to jointly develop two of ADC Therapeutics' antibody-drug conjugate programmes in preclinical development. MedImmune will also make an equity investment in ADC Therapeutics, which has an existing licensing agreement with Spirogen.

MedImmune will acquire 100 per cent of Spirogen's shares for an initial consideration of \$200 million and deferred consideration of up to \$240 million based on reaching predetermined development milestones. Existing out-licensing agreements and associated revenue streams are excluded from this acquisition.

MedImmune will also pay \$20 million for an equity investment in ADC Therapeutics, which will be matched by Auven Therapeutics, the majority shareholder in both ADC Therapeutics and Spirogen. The collaboration agreement will include an upfront payment with predetermined development milestones for two programmes from a defined list and a cost- and profit-sharing arrangement with MedImmune representing the majority share. ADC Therapeutics will also have the option to co-promote one of the products in the US.

Antibody-drug conjugates are a clinically-validated cancer drug technology that offers both high potency and selective targeting of cancer cells. Spirogen's proprietary pyrrolobenzodiazepine (PBD) technology attaches highly potent cytotoxic agents, or 'warheads' to specific cancer-targeting antibodies using biodegradable 'linkers'. This targeting optimises the delivery of the cancer drug to the tumour cells only and provides the greatest degree of tumour killing while minimising the toxicity to the patient.

"Antibody-drug conjugates are ground-breaking technologies with the potential for directly targeting many types of cancer tumours while safeguarding healthy cells. The cutting-edge technologies developed by Spirogen and ADC Therapeutics complement MedImmune's innovative antibody engineering capabilities, enabling us to accelerate antibody-drug conjugates into the clinic," said Dr. Bahija Jallal, Executive Vice President, MedImmune.

Oncology is a core therapy area for AstraZeneca spanning both small molecule and biologics research and development. MedImmune is developing a comprehensive portfolio with an emphasis on two key areas in oncology development: antibody-drug conjugates and immune-mediated cancer therapy, which aims to harness the power of the patient's own immune system to fight cancer. Together, immune-mediated cancer therapies and antibody-

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drug conjugates have the potential to treat cancer in a way that current therapies are unable to do.

“This deal reflects the very significant progress made by our scientists, most notably over the last two years, as we have applied our warhead and linker technologies to the development of highly potent and specific antibody-drug conjugates,” said Dr. Chris Martin, Chief Executive Officer, Spirogen. “We believe that pyrrolobenzodiazepine-armed antibody-drug conjugates will emerge as a critical component in the next generation of cancer biologics with the potential to make a difference for oncologists and their patients. We look forward to combining our world-class capabilities in this area with MedImmune’s ability to develop this exciting class of oncology drugs.”

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### NOTES TO EDITORS

#### **About Antibody-Drug Conjugates**

An antibody-drug conjugate is a three-component system consisting of a potent cytotoxic agent, or ‘warhead’, a biodegradable linker and a monoclonal antibody. The antibody binds to specific markers at the surface of the cancer cell. The whole antibody-drug conjugate is then internalised within the cancer cell where the active drug is released. Antibody-drug conjugates have extensive potential therapeutic applications in several disease areas, particularly in cancer. The principle can also be applied beyond antibodies, with the possibility of linking warheads to antibody fragments, peptides, vitamins and hormones.

#### **About Spirogen**

The Spirogen group was founded in 2001 as a spin-out from several institutions including University College London and with partial funding by Cancer Research UK. It is majority owned by Auen Therapeutics. It has developed a novel class of highly potent cytotoxic warheads based on its proprietary pyrrolobenzodiazepines (PBDs), DNA minor groove binding agents, which bind and cross-link specific sites of DNA of the cancer cell. This blocks the cancer cells’ division without distorting its DNA helix, thus potentially avoiding the common phenomenon of emergent drug resistance. Spirogen has been developing its PBD technology for more than ten years, including a standalone PBD agent in a Phase II study in acute myeloid leukemia. Its business model has been to partner its technology with pharma and biotech for use in the development of novel drugs. It has a number of industry collaborations, including collaborations with Genentech announced in 2011 and with ADC Therapeutics announced in 2012. For further information, please visit: [www.spirogen.com](http://www.spirogen.com).

#### **About ADC Therapeutics**

ADC Therapeutics (ADCT) is a Swiss-based oncology drug development company that specialises in the development of proprietary antibody-drug conjugates (ADCs) targeting major cancers such as breast, lung, prostate, renal and blood. The company’s ADCs are highly targeted drug constructs which combine monoclonal antibodies specific to particular types of tumour cells with a novel class of highly potent PBD-based warheads. The company was launched in 2012 with a \$50m commitment from private equity firm Auen Therapeutics. ADCT has access to warhead and linker chemistries via existing agreements with Spirogen. It operates a virtual business model based in Lausanne, Switzerland. For further information, please visit: [www.adctherapeutics.com](http://www.adctherapeutics.com).

#### **About Auen Therapeutics**

Auen Therapeutics was founded by Stephen Evans-Freke and Dr. Peter B Corr in 2007

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with an innovative investment strategy that enables it to operate as a drug development company while remaining structured as a private equity fund. Auven Therapeutics has a portfolio of biologic and small molecule drug candidates for a range of therapeutic indications including cancer, ophthalmic conditions, women's health and orphan diseases. Auven manages its drug development activities from its bases in Lausanne, Switzerland, New York, USA and Hamilton, Bermuda. Auven Therapeutics Management LLLP, based in the US Virgin Islands, serves as its Investment Advisor. For further information, please visit: [www.auventx.com](http://www.auventx.com).

### About MedImmune

MedImmune is the worldwide biologics research and development arm of AstraZeneca. MedImmune is pioneering innovative research and exploring novel pathways across key therapeutic areas, including respiratory, inflammation and autoimmunity; cardiovascular and metabolic disease; oncology; neuroscience, and infection and vaccines. The MedImmune headquarters is located in Gaithersburg, MD, one of AstraZeneca's three global R&D centres. For more information, please visit [www.medimmune.com](http://www.medimmune.com).

### About AstraZeneca

AstraZeneca is a global, innovation-driven biopharmaceutical business that focuses on the discovery, development and commercialisation of prescription medicines, primarily for the treatment of cardiovascular, metabolic, respiratory, inflammation, autoimmune, oncology, infection and neuroscience diseases. AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide. For more information please visit: [www.astrazeneca.com](http://www.astrazeneca.com)

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