



MEDIA INFORMATION

SYNAIRGEN PLC

RESEARCH IDENTIFIES POTENTIAL NEW THERAPY FOR ASTHMATICS TO COMBAT COLDS

Novel use of Interferon- β to treat or prevent virus-induced asthma attacks

Southampton, UK - Synairgen plc ('Synairgen' or the 'Company'), the drug discovery company focused on identifying the underlying causes of, and treatments for, asthma and chronic obstructive pulmonary disease ('COPD'), announced today that a team, led by Synairgen's Founders, Professors Stephen Holgate and Donna Davies at the University of Southampton, has published new data in the Journal of Experimental Medicine identifying a potential novel treatment to reduce virus-induced asthma attacks or exacerbations.

The common cold virus or rhinovirus is a major trigger of asthma symptoms, frequently leading to hospitalisation. The team at Southampton has investigated the underlying mechanisms behind this and observed a difference in virus replication between lung epithelial cells from asthmatic and healthy control subjects. Furthermore, the team has identified a deficiency in the production of interferon- β (a chemical messenger and a therapy prescribed for the treatment of multiple sclerosis (MS)), which triggers normal programmed cell death (apoptosis) of infected epithelial cells. This deliberate sacrifice reduces viral replication, thereby reducing the spread of virus within the lungs.

The data from this *in vitro* work showed that viral replication increased around 50 fold in asthmatic bronchial epithelial cell cultures compared to healthy controls. Treating the cells with interferon- β normalised the asthmatic cells' response to rhinovirus infection. The results suggest that inhaled interferon- β could be used in the treatment or prevention of rhinovirus-induced asthma attacks. Synairgen has exclusively licensed this discovery, for which a patent application has been filed by the University of Southampton, and has a proprietary programme to develop interferon- β as a therapy for asthma.

Professor Stephen Holgate said, "*The common cold virus, or rhinovirus, is a major trigger for asthma symptoms, frequently leading to hospitalisation of sufferers. Eight out of ten asthma attacks in children and four out of ten in adults are triggered by viral infections, such as colds or flu. The cost to the NHS of hospitalisation for asthma sufferers in general is over £850 million per year.*"

A copy of the paper is available via the Journal of Experimental Medicine website: <http://www.jem.org>.

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For further information, please contact:

Synairgen
Richard Marsden

Tel: 02380 512 800

Hogarth Partnership
Melanie Toyne-Sewell
Georgina Briscoe

Tel: 020 7357 9477

Notes to Editors

1. Background to the Company

Synairgen was founded by Professors Stephen Holgate, Donna Davies and Ratko Djukanovic (the 'Founders'), a world-renowned respiratory research team from the University of Southampton (the 'University'), and spun-out from the University in June 2003, supported by funding from IP2IPO Group plc. In October 2004 the Company floated on AiM, raising £10.0 million (£9.0 million net of expenses) to enhance its research and development capabilities and invest in its proprietary programmes.

Synairgen seeks to commercialise a number of drug discovery opportunities, through its own internal research programmes and those that have been carefully selected from the wider range of research projects led by the Founders in their academic roles, and which offer out-licensing opportunities. The Group intends to out-license its IP at an early stage (pre-Phase II) rather than committing significant capital resources to late-stage clinical trials.

Since June 2003, the Company has made significant progress: two proprietary programmes in the field of asthma have been initiated and the Company has signed four agreements with pharmaceutical and biotechnology companies, including Merck Frosst (affiliate of Merck & Co Inc), Cambridge Antibody Technology and Centocor Inc (part of Johnson and Johnson). Synairgen is currently discussing further collaboration agreements.

2. Asthma

According to the World Health Organisation, between 100 and 150 million people around the globe suffer from asthma and this number is rising. Asthma prevalence in the UK is now 3-4 times higher in adults and 6 times higher in children than it was 25 years ago, and currently it accounts for 1,400 deaths in the UK per year. In the United States, there are approximately 17-20 million sufferers and the cost is estimated to be about \$13 billion per annum. There are limited therapies available for severe asthma and the potential for treatments satisfying this largely unmet need is significant, as demonstrated by the projected sales of \$3.3 billion in 2012 for Xolair®.

3. COPD

COPD encompasses a number of diseases, including the smoking-related lung diseases, chronic bronchitis and emphysema. The prevalence of COPD is estimated at 16-17% in the US and Europe. Globally it is killing 2.7 million people per annum and is forecast to become the third largest cause of death in the world by 2020. COPD is underserved by current treatments.

Sales of pharmaceutical products used to treat asthma and COPD in major pharmaceutical markets in 2002 were estimated to be \$7.0 billion and \$2.7 billion respectively and are forecast to reach \$12.8 billion and \$5.8 billion in 2012.