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MEDIA INFORMATION

British team discovers new weapon for asthmatics to combat winter asthma attacks

*A therapy used to treat multiple sclerosis could
provide the answer for asthmatics in the cold virus season*

A British team from the University of Southampton, led by the world-acknowledged asthma experts, Professor Stephen Holgate and Professor Donna Davies, has identified a therapy used to treat multiple sclerosis (MS) as a potential novel treatment to reduce asthma attacks caused by the common cold virus. Their findings have just been published in the Journal of Experimental Medicine.

Professor Stephen Holgate said, *"The common cold virus, or rhinovirus, is a major trigger for the worsening of 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."*

The team at Southampton has investigated the underlying mechanisms behind the effect of colds on asthmatics and observed a difference in virus replication between lung epithelial cells from asthmatic and healthy control subjects. The data from this *in vitro* work showed that viral replication increased around 50 times in asthmatic bronchial epithelial cell cultures compared to healthy controls.

The team identified a deficiency in the production of interferon- β (a chemical messenger) which triggers a 'suicide' response, called apoptosis, in the infected epithelial cells. This deliberate sacrifice reduces viral replication and thereby reduces the spread of virus within the lungs.

"Treating the cells with interferon- β normalised the asthmatic cells' response to rhinovirus infection," said Professor Donna Davies. *"The results suggest that inhaled interferon- β could be used in the treatment or prevention of rhinovirus-induced asthma attacks, thereby cutting the number of hospitalisations of asthma-sufferers during the cold season."*

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

The work was partially funded by the British Medical Association, Asthma UK, the British Lung Foundation and the Australian National Health and Medical Research Council.

This discovery has been patented and exclusively licensed to Synairgen plc which has a proprietary programme to develop interferon- β as a therapy for asthma.

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