Press release

Synairgen plc
('Synairgen' or the 'Company')

In vitro antiviral activity of IFN-beta against H5N1 ('Bird Flu')

Southampton, UK – 4 May 2011: Synairgen plc (LSE: SNG), the respiratory drug discovery and development company with a particular focus on viral defence, announces that interferon beta ('IFN-beta') is effective against H5N1 ('Bird Flu') in *in vitro* testing.

Avian influenza, commonly called 'Bird Flu', is an infectious viral disease of birds. Most avian influenza viruses do not infect humans; however some, such as H5N1, have caused serious infections in humans (mortality rate of over 50%) and are a particular concern for influenza preparedness programmes.

In the experiments, Synairgen's IFN-beta protected human lung cells against infection with Bird Flu (virus strain: Influenza A/Indonesia/5/2005 (H5N1)). By the end of the experiments (48 hours after infection), approximately 100 times less Bird Flu virus had been released from cells treated with IFN-beta than those without IFN-beta.

IFN-beta acts by boosting the body's host cells' defences, rather than targeting a particular virus type. Synairgen has previously shown IFN-beta activity against rhinovirus (the most frequent cause of the common cold), respiratory syncytial virus (RSV), seasonal influenza and H1N1 (swine flu). There are relatively few therapeutic options for the treatment of highly pathogenic influenza strains such as H5N1 'Bird Flu'. These results indicate that IFN-beta beta may represent a future therapeutic option against a broad range of both common and less common, but highly pathogenic, viral threats.

Synairgen's inhaled IFN-beta product for treatment of respiratory viruses in asthma patients has completed Phase I safety studies and is currently undergoing a multi-centre, multi-country Phase II proof of Concept study, for which recruitment is due to complete this autumn. In addition to asthma, Synairgen is pursuing a plan to develop inhaled IFN-beta for the Chronic Obstructive Pulmonary Disease (COPD) indication, and a preclinical trial in the influenza indication will be completed in the autumn.

Richard Marsden, CEO of Synairgen, commented, "*These results are encouraging and show that IFN-beta has potential to be effective against a wide range of respiratory viruses, including challenging viruses such as Bird Flu. We look forward to seeing the results from the preclinical work in influenza later this year.*"

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Notes for editors

Facts about Bird Flu

- Avian influenza, commonly called bird flu, is an infectious viral disease of birds.[1]
- Most avian influenza viruses do not infect humans; however some, such as H5N1, have caused serious infections in people.[1]
- Outbreaks of avian influenza in poultry may raise global public health concerns due to their effect on poultry populations, their potential to cause serious disease in people, and their pandemic potential.[1]
- To date there have been over 550 laboratory-confirmed cases of H5N1 including over 320 deaths.[2]
- H5N1 is resistant to amantadine and rimantadine due to wide spread use of these medications in the Asian poultry industry to prevent or treat avian influenza in birds. The current H5N1 infection has been sensitive to the neuraminidase inhibitors, oseltamirvir and zanamivir. Even with the use of broad-spectrum antibiotics, steroids, and neuraminidase inhibitors there has been a high mortality rate.[3]

References

1) http://www.who.int/mediacentre/factsheets/avian_influenza/en/index.html
2) http://www.who.int/csr/disease/avian_influenza/country/cases_table_2011_04_21/en/index.html updated to 21 April 2011
3) http://www.medscape.com/viewarticle/525642_6