Press Release

Synairgen plc
(‘Synairgen’ or the ‘Company’)

Synairgen Presents In Vitro Potency Data for Interferon Beta Against SARS-CoV-2 Variants and Lung Antiviral Biomarker Data for Inhaled SNG001 at the 8th ESWI Influenza Conference

- In vitro data demonstrate antiviral activity of SNG001 against multiple variants of SARS-CoV-2
- Clinical biomarker data show inhaled SNG001 stimulates lung antiviral responses

Southampton, UK – 8 December 2021: Synairgen plc (LSE: SNG), the respiratory company developing SNG001, a formulation for inhalation containing the broad-spectrum antiviral protein interferon beta for the treatment of severe viral lung infections, has presented in vitro and clinical data demonstrating antiviral activity for SNG001 in a poster and an oral presentation respectively at the 8th European Scientific Working Group in Influenza (ESWI) Influenza Conference, which was held virtually 4-7 December, 2021.

In the poster session, Synairgen presented in vitro data demonstrating that SNG001, our formulation of the naturally-occurring antiviral protein interferon beta, potently reduced virus to undetectable levels in cells infected with SARS-CoV-2 including the Alpha, Beta and Gamma variants of concern (VOC), at concentrations that are readily achievable following inhaled delivery of interferon beta.

“This study demonstrated potent antiviral activity of SNG001 against SARS-CoV-2 including Alpha, Beta and Gamma variants, which is important given the continuing emergence and global spread of variants of concern,” Phillip Monk, Ph.D., Synairgen Chief Scientific Officer, commented.

Synairgen is investigating the in vitro activity of SNG001 against the Delta and Omicron variants of SARS-CoV-2 and will make data available as soon as possible.

In a separate oral session on 6 December, Dr Monk presented data showing that inhaled SNG001 significantly increased interferon beta-dependent antiviral biomarkers in the lungs of asthma and chronic obstructive pulmonary disease (COPD) patients enrolled in Phase 2 trials.

“SNG001 is an investigational drug currently in Phase 3 trials, with the first data read out early in 2022, and contains the essential antiviral protein interferon beta, a protein that ‘switches on’ antiviral defences. Interferon beta production by lung cells is suppressed by the SARS-CoV-2 virus. We presented data showing that SNG001 activates the lungs’ antiviral defences for 24 hours after a dose has been delivered, supporting our once-a-day dosing schedule,” Dr Monk added.
Details of the two ESWI presentations are as follows:

**Poster Presentation:**

**Title:** Interferon beta has potent antiviral activity against SARS-CoV-2 including variants of concern

**Abstract:** 269

Vero E6 cells, a cell line that is widely used in virology studies, were pre-treated with SNG001 16 hours before, and re-treated with SNG001 after, infection with ‘Wuhan-like’ SARS-CoV-2, Alpha, Beta or Gamma variants. The presence of viral protein-positive cells was determined 20 hours post-infection by immunostaining.

The poster included the following data:

- SNG001 potently reduced virus to undetectable levels following infection of cells with ‘Wuhan-like’ SARS-CoV-2, Alpha, Beta or Gamma variants.
- SNG001 achieved 99% inhibition (IC99) at concentrations of 5.4, 17.7, 11.0 and 7.9 IU/mL respectively.

The poster presentation is available on the Synairgen website.

**Oral Presentation:**

**Title:** Local delivery of interferon beta (SNG001) by inhalation upregulates lung antiviral biomarkers

**Abstract:** 270

Sputum samples were collected from patients in two Phase 2 studies of SNG001: SG005 (NCT01126177) in patients with asthma, and SG015 (NCT03570359) in patients with COPD. Gene expression of IFN-β-dependent antiviral biomarkers, MX1 and OAS1, in cells in the sputum samples were measured by RT-qPCR.

The presentation included the following data:

- Inhaled SNG001 significantly increased levels of interferon beta-dependent antiviral biomarkers in the lungs of both patient populations compared with pre-treatment levels.
- Biomarker responses were similar in younger asthma patients and older COPD patients at the same dose.
- SNG001 was well tolerated.

*This announcement contains inside information for the purposes of Article 7 of Regulation (EU) No. 596/2014 (‘MAR’).*

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About Synairgen
Synairgen is a UK-based respiratory company focused on drug discovery, development and commercialisation. The Company’s primary focus is developing SNG001 (inhaled interferon beta) for the treatment of COVID-19 as potentially the first host-targeted, broad-spectrum antiviral treatment delivered directly into the lungs. SNG001 has been granted Fast Track status from the US Food and Drug Administration (FDA) and the Phase 3 SPRINTER trial was deemed an Urgent Public Health study by the UK's National Institute for Health Research (NIHR). Synairgen’s Phase 3 clinical programme is currently evaluating nebulised SNG001 in patients across 17 countries. In a Phase 2 trial in hospitalised COVID-19 patients, SNG001 demonstrated a greater than two-fold chance of recovery to 'no limitation of activities' versus placebo.¹

Founded by University of Southampton Professors Sir Stephen Holgate, Donna Davies and Ratko Djukanovic in 2003, Synairgen is quoted on AIM (LSE: SNG). For more information about Synairgen, please see www.synairgen.com.

¹https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30511-7/fulltext