

## 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 8<sup>th</sup> 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 8<sup>th</sup> 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- $\beta$ -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.<sup>1</sup>

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](http://www.synairgen.com).

<sup>1</sup>[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30511-7/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30511-7/fulltext)