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# **ENA Respiratory Publishes Review of Development of Novel Intranasal Antiviral Host Defense Immune Enhancer INNA-051 in *Antiviral Research***

* Publication comes as the prevalence of respiratory infections continues to rise worldwide

**Melbourne, Australia, 28 January 2025 –** [ENA Respiratory](https://enarespiratory.com/), a clinical-stage pharmaceutical company developing antiviral host defense immune enhancers to minimize the impact of respiratory viral infections in at-risk populations, announces today the publication of an invited [review](https://www.sciencedirect.com/science/article/pii/S0166354224002742?via%3Dihub) of the preclinical and clinical development of INNA-051 in *Antiviral Research*, a monthly peer-reviewed medical journal of the International Society for Antiviral Research published by Elsevier[[1]](#footnote-2).

INNA-051 is a host defence immune enhancer which locally primes and boosts the body’s innate immune response – the natural first line of defence. It is being developed as a convenient, once-a-week nasal dry powder product to reduce the impact of viral respiratory infections and prevent severe complications in at-risk populations, including the elderly, those with an underlying medical condition (including chronic lung conditions, diabetes, kidney disease, and cardiovascular disease) and individuals with occupational risk (e.g. first responders, military or essential services personnel).

The rising global prevalence of viral respiratory infections highlights the urgent need for medical countermeasures to complement vaccine and direct-acting antiviral approaches. Increased emergency room visits in the U.S. caused by influenza, recent global reports of severe illness caused by bird flu infections, and the recent surges in human metapneumovirus infections and hospitalizations in China underscore the continued impact of viral respiratory infections on vulnerable populations. These trends emphasize the critical importance of innovative approaches to reduce the burden of morbidity and mortality worldwide.

In the review our Director of Biology, Dr Francesca Mercuri, and her co-authors detail how host-directed therapies could work broadly across a range of viral variants to boost the natural anti-viral defences and help tackle viral respiratory infections. The review goes on to present pre-clinical and clinical data on INNA-051, including data from our Phase 2a proof-of-concept study in an influenza-challenge model, which highlights its potential to protect individuals from illness caused by common and emerging viral respiratory viruses.

**ENA Respiratory’s CEO, Christophe Demaison, PhD said:** “The prevalence of viral respiratory infections continues to rise, bringing with it significant levels of morbidity and mortality, particularly in at risk populations. The need for innovative approaches that complement and address the limitations of vaccines and direct-acting antivirals is urgent. We are proud to have published this review on the development of INNA-051 which we believe has the potential to play a significant role in reducing the enormous burden of respiratory disease.”

ENA is currently planning its Phase II community infection study to assess the safety and potential efficacy of INNA-051 in reducing the incidence and duration of symptomatic infections caused by common respiratory viruses, including coronaviruses, seasonal influenza, rhinovirus, respiratory syncytial virus and human metapneumovirus in young adults at risk for exposure living in the US.

**-ENDS-**

**About ENA Respiratory**

ENA Respiratory is a clinical-stage pharmaceutical company tackling serious respiratory viral infections through the development of host defense immune enhancers which locally prime and boost the body’s innate immune response – the natural first line of defence against invading pathogens. Being virus-agnostic, ENA’s antiviral host defence enhancers offer solutions to protect at risk individuals against common and emerging respiratory viruses for which vaccines or direct-acting antivirals have limitations or do not exist.

The company’s lead product, INNA-051, is being developed as a convenient, once-a-week nasal dry powder product to reduce the impact of viral respiratory infections and prevent severe complications in at-risk populations, including the elderly, those with an underlying medical condition (including chronic lung conditions, diabetes, kidney disease, and cardiovascular disease) and individuals with occupational risk (e.g. first responders, military or essential services personnel).

INNA-051 is a potent agonist of toll-like receptor 2/6 (TLR2/6) which plays a key role in recognising pathogens and potentiating innate immune responses. With a safety profile supporting seasonal prophylaxis use, it has demonstrated accelerated virus clearance and stimulation of antiviral host defences, including IFN Type I & III responses, in a Phase IIa proof-of-principle study using a human influenza-challenge model.

Headquartered in Melbourne, Australia, the company has raised US$26M (AU$44million) in equity financing from Brandon Capital, The Minderoo Foundation and Uniseed. It is partnered with the US COPD Foundation to support the clinical development of INNA-051 in COPD and has been awarded a US$13.1 million contract from the U.S. Department of Defense (DOD). It is an alumni member of BLUE KNIGHT™, a joint initiative between Johnson & Johnson Innovation and BARDA designed to accelerate novel potential solutions for future pandemics.

For more information, please visit <https://enarespiratory.com>

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1. Francesca A. Mercuri, Gary P. Anderson, Bruce E. Miller, Christophe Demaison, Ruth Tal-Singer. Discovery and development of INNA-051, a TLR2/6 agonist for the prevention of complications resulting from viral respiratory infections. Antiviral Research, 2025 <https://doi.org/10.1016/j.antiviral.2024.106063> [↑](#footnote-ref-2)