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N4 Pharma plc

("N4 Pharma" or the "Company")

N4 101 In Vivo Study Results

Positive results from first in vivo study of dual-loaded Nuvec® for IBD

N4 Pharma plc (AIM: N4P), the UK biotech developing Nuvec®, its proprietary gene delivery system to enable advanced therapies for cancer and other diseases, is pleased to announce positive results from its first *in vivo* study evaluating the use of its Nuvec® proof-of-concept programme, N4 101, an orally delivered anti-inflammatory treatment for Inflammatory Bowel Disease (IBD).

Following the successful completion of *in vitro* profiling in December 2024, N4 Pharma has now completed its first *in vivo* study using an industry-standard mouse model of IBD. The study explored the therapeutic potential of orally administered Nuvec® particles loaded with siRNA alone and combined with mRNA.

Over a nine-day dosing period, mice with chemically induced acute IBD received single (siRNA) or dual (siRNA and mRNA) Nuvec®-loaded formulations, and versions of these therapies specifically targeted at cells involved in gut inflammation using modified Nuvec® particles. Samples were collected for analysis on day 15.

Key highlights from the study include:

- **Reduction in inflammation:** both single and dual-loaded Nuvec® particles demonstrated marked improvements compared with controls across all key indicators of colitis, including Disease Activity Index (DAI), colon length, and body weight loss.
- **Marked increase in efficacy achieved with targeting:** both the single and dual loaded Nuvec® combined with a targeting agent performed better and showed an even greater reduction in the inflammatory marker TNF alpha than the untargeted therapies.
- **Sustained therapeutic effect:** six days after the final administration, both single and dual-loaded targeted Nuvec® particles showed a near complete reduction in TNF alpha levels in intestinal tissues.
- **Effective oral delivery:** the study also provides clear *in vivo* evidence that Nuvec® particles successfully deliver therapeutic nucleic acid cargos (siRNA and mRNA) to

the gut via oral administration, resulting in the sustained anti-inflammatory effects observed.

Nigel Theobald, Chief Executive Officer of N4 Pharma, commented:

"We are delighted with these very promising *in vivo* data, which demonstrate a sustained anti-inflammatory effect in a validated IBD model - a major milestone for our N4 101 programme. Demonstrating a clear increase in performance through targeting the treatment to specific cells is the holy grail of nucleic acid therapeutics, and these results place Nuvec® at the leading edge of nucleic acid delivery technologies.

"The study also provides good evidence that Nuvec® can successfully deliver nucleic acid therapies to the gut via oral administration, opening up exciting new possibilities for orally delivered therapies for gastrointestinal diseases such as IBD and some cancers.

"This work is at an early stage, but as we move into optimisation studies, these findings will continue to add to our data set along with the extensive studies supported by the recent fundraise, to validate Nuvec® as a novel delivery platform for advanced therapies, strengthening our discussions with commercial partners.

"We look forward to advancing this programme into the next phase of development and providing further updates on this and our broader platform work plans for the coming months in due course."

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For more information, please contact:

N4 Pharma plc

Nigel Theobald, CEO
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Via N4 Pharma Investor
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Submit your questions directly to the management team via the N4 Pharma Investor Hub

<https://investors.n4pharma.com/link/8r6zor>

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About N4 Pharma

N4 Pharma is a pre-clinical biotech company developing Nuvec®, its proprietary gene delivery system, to enable advanced therapies for cancer and other diseases.

RNA therapeutics are set to impact the treatment of a wide range of diseases and Nuvec® has several key advantages for RNA gene delivery including the ability to deliver multiple RNA therapies in a single particle, ease of manufacturing, protection of the RNA payload to allow for oral delivery, no unwanted immune response and excellent stability and storage.

N4 Pharma is building out its preclinical data set and working towards first-in-human clinical data to support significant licensing deals for its Nuvec® platform with gene therapy partners.

N4 Pharma's lead programme, N4 101, is an oral anti-inflammatory product for IBD which serves as a proof-of-concept programme showcasing all the benefits of the Nuvec® platform.

For further information on the Company visit www.n4pharma.com or sign up at <https://investors.n4pharma.com/auth/signup>.

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