

Stock Data

Share Price	0.55p
Market Capitalisation	£4.58m
Shares in issue:	832.28m
52 week high/low	0.85p/0.35p

Company Profile

Sector:	Pharmaceuticals
Ticker:	N4P
Exchange:	AIM

Activities

N4 Pharma plc ('N4 Pharma', 'N4P' or 'the Group') is biotech company developing Nuvec®, its proprietary gene delivery system, to enable advanced therapies for cancer and other diseases. It also has a controlling in Nanogenics Limited., which has developed a lipid and peptide-based system, LipTide®, for delivery of nucleic acids.

www.n4pharma.com

5-year share price performance



Source: [LSE](https://www.lse.com)

Past performance and forecasts are not a reliable indicator of future results.

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N4 Pharma plc

Nuvec® platform reaches important milestone *in vivo*

N4 Pharma ('N4P') has released positive results from the first *in vivo* study of its dual-loaded Nuvec® proof-of-concept ('POC') programme, N4 101, an orally delivered treatment for Inflammatory Bowel Disease ('IBD'). Data indicates a sustained anti-inflammatory effect in a validated model through targeted treatment of nucleic acid therapeutics. This represents an important milestone in validating the Group's novel delivery platform as it builds-out, enhances and advances its research with a view to positioning it as a platform of choice for gene therapy and cancer treatments. With a post-raise cash runway expected to support it into H2 2026, in due course the Board looks forward to advancing this programme into its next phase of development, providing further updates on this and its broader platform work plans for the coming months. Recognising that drug development agreements will only ever be founded through provision of a comprehensive commercial data-room, these steps are key to fulfilling N4P's 12-to-18-month objective of signing its first research collaboration(s) with a well-resourced industry player(s). Success here could then lead on to a number of remunerative platform licencing and milestone-based agreements for third party therapeutic projects. Given that the FDA now takes a product-focused, science-based approach to regulating nanotechnology products, there is potential for considerable value creation through adoption of N4P's technology based on the operational advantages it brings and the absence of shortcomings (including off-target effects/immune responses) encountered through existing techniques.

Key highlights from the study

Following completion of *in vitro* profiling in December 2024, N4P's first N4 101 *in vivo* 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 small interfering RNA ('siRNA') or dual siRNA and microRNA ('mRNA') Nuvec®-loaded formulations, and versions of these therapies specifically targeted at cells involved in gut inflammation using modified Nuvec® particles. Fifteen-day analysis produced the following key observations:

- **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.

Nuvec® - N4P building-out and enhancing a comprehensive data package

The use of nucleic acids as therapeutics instead of small molecules or biologics, is an area of rapidly growing interest and commercial value. RNA is typically a single-strand biopolymer that is vulnerable to hydrolysis and, being highly unstable, requires a delivery system for use in the body as a therapeutic. Still relatively young in its development, the RNA therapeutics market alone was nevertheless valued at US\$13.7bn in 2023 which, according to forecaster [MarketsandMarkets](#), is projected to grow to US\$18bn by 2028.

The true potential of RNA therapeutics, however, remains constrained by issues and limiting factors associated with their manufacture and targeted delivery. Should these issues be successfully addressed through new research, such as that presented by N4P's Nuvec® technology, the overall market offers scope for significant further expansion. Recognising this potential, the Group's ultimate ambition is to become an industry leading platform used by multiple pharmaceutical partners in gene therapy and cancer treatments, while also advancing its own drug pipeline.

Nuvec®'s POC programme, N4 101, an oral anti-inflammatory product for the treatment of IBD, is being used to showcase the key benefits of the delivery technology where other approaches have been seen to struggle. While displaying no off-target effects, it has already demonstrated that: i) it can straightforwardly load multiple RNA therapeutics onto the same particle (in the case of N4 101 an siRNA and an mRNA are loaded); ii) it protects the payload from enzyme degradation; iii) it can be functionalised to target specific cells; (iv) it provides protection of the payload by the silica structure, meaning that delivery into a hostile environment (such as the gut) is possible, potentially allowing for example, treatment of gastrointestinal disorders; and (v) future development opens opportunity for systemic dosing via an oral capsule, thus avoiding repeated hospital visits for injections. Importantly, the efficiency of delivery and efficacy of an siRNA and an mRNA therapeutic used to treat IBD were demonstrably enhanced when delivered by targeted Nuvec® particles compared with untargeted delivery; a Nuvec® formulation dual loaded with both therapeutics at the same time shows equivalent efficacy to the separate treatments. Today's *in vivo* study results wholly support and build upon these *in vitro* findings and represent an important next step in creation of the Group's comprehensive data package.

Drug development research collaborations with large sector players will only ever be based on depth and quality of such all-encompassing information. The presenter must warrant its ability to supply the incoming partner with materials necessary for their in-house studies along with a thorough understanding of safety and effectiveness, etc. generated through preclinical models, etc. Hence the need for N4P to build upon existing data, for which today's results are an important part. N4P has already assembled a small team of consultants, being industry experts in CMC, translational biology, RNA therapeutics and commercial licensing to support it and maximise the chances of success.

Business strategy – Platform licensing to open door to higher-return programme deals

The £1.75m (gross) new funding N4P secured on 1 April is expected to sustain its relatively low-technical risk development phase over the coming 12 to 18 months. During this time, it will seek to highlight and establish the differentiating aspects of the Nuvec® platform while also actively building its business development pipeline. The Group's technology/IP remains highly protected across major international territories and no competitive threats to the mesoporous silica matrix structure having been identified. Given that there are presently over 80 key enterprises active in the RNA therapies space, each of which almost inevitably shares an interest in trialling new/safer delivery modalities, N4P expects a positive reaction when marketing Nuvec® supported by a comprehensive data room. This is expected to result in the signing of at least one commercial deal, initially likely to take the form of a research collaboration over a set period, before evolving into a fee-based platform licensing and milestone agreement, under which N4P will supply critical material to its partner for in-house translational studies. This of course will represent a significant value-inflection point for the Group.

Being non-exclusive, such early success is likely to generate similar transactions from various other interested parties. The momentum created would then likely permit N4P to move to its stated longer-term strategy of

advancing its own differentiated Nuvec® pipeline (which is presently in IBD and oncology) forward into Phase 1 clinical trials. Such a move entails greater technical risk and costs, although multiple 'big ticket' transaction suggests the potential rewards more than justify such a move. This will be a strategic decision for the Board in the future. By this time of course, large Pharma or Biotech may well have noted the significance of the Nuvec® technology for development across the RNA space and seek to acquire/control it before N4P's longer-term planning is able to get underway.

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