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N4 Pharma PLC
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N4 Pharma plc
("**N4 Pharma**" or the "**Company**")

Operational Update

N4 Pharma Plc (AIM: N4P), the specialist pharmaceutical company developing Nuvec®, a novel delivery system for cancer treatments and vaccines, is pleased to provide the following update on its ongoing work programmes.

Optimisation

The optimisation programme is investigating different formulations of Nuvec® including the type of Polyethylenimine ("PEI"), the requirement for phosphonation and the ratio of DNA/Nuvec® amongst other things. This work is progressing well and the Company is pleased to update that it has successfully developed different options to make a fully monodispersed formulation of Nuvec® loaded with plasmid DNA. Initial studies have also demonstrated that Nuvec® loaded with a plasmid DNA can be dried, stored at room temperature and reconstituted without any degradation of DNA. This formulation is now being stored over different periods after which it will be reconstituted and tested *in vitro* to demonstrate transfection has been maintained. Demonstrating formulation stability would be an important milestone given that stable, easy to store and easy to use vaccines are a major challenge for developers.

The Directors believe that demonstrating Nuvec® can be consistently formulated with DNA or mRNA and dry stored for later use would give Nuvec® a considerable commercial advantage as a delivery technology compared to lipid based mRNA systems that require substantial freezing or electroporation based DNA systems which are expensive and difficult to use. As this work concludes the Company will look to incorporate the key findings into the planned optimised *in vivo* study.

Covid-19 Proof of Concept Programme and In Vivo study

The plan for the unoptimised Nuvec® *in vivo* study to compare the reactions of Nuvec® loaded with the Coronavirus plasmid and another generic plasmid in generating relevant antibodies, has now been finalised and the study will commence shortly.

Plans for the optimised Nuvec® *in vivo* study continue to evolve with the optimisation programme introducing several variables (as detailed above) which the Company will seek to compare and analyse as part of this study. As with the unoptimised study, the Company will be comparing both the Coronavirus plasmid and other DNA plasmids and it is expected that this work will commence in early 2021, subject to finalisation with the Contract Research Organisation.

Oral Application

Feasibility work continues on Nuvec® as a solution to the challenges faced in the delivery of vaccines orally. The Company expects to have some data following the results of planned studies as to its viability towards the end of this year. Development of an orally administered vaccine has significantly greater challenges than a subcutaneous injection. One important aspect is that the DNA plasmid may be subject to damage and breakdown by gastric acid and other digestive processes. However, the Company has now demonstrated that Nuvec® protects plasmid DNA from both acid and nuclease digestion. This result gives the Company confidence that further investigation of this route of administration using Nuvec® is merited.

Nigel Theobald, Chief Executive Officer of the Company, commented:

"We are pleased to have made significant strides with our optimisation work and are currently analysing the findings. We are examining how these will feed into the optimised strand of the pending *in vivo* study. The unoptimised side of this, which involves our first full *in vivo* study utilising the Coronavirus DNA plasmid, is due to commence imminently.

"Taken together with the work into oral applications and the ongoing technology transfer for the manufacture of Nuvec®, we are entering a pivotal time for the Company over the next six months and I look forward to providing further updates as each work stream progresses."

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014.

Enquiries:

N4 Pharma plc

Nigel Theobald, CEO — Via IFC Advisory

Luke Cairns, Executive Director

SP Angel Corporate Finance LLP — Tel: +44(0)20 3470 0470

Nominated Adviser and Joint Broker

Matthew Johnson/Caroline Rowe (Corporate

Finance)

Vadim Alexandre/Abigail Wayne/Rob Rees (Corporate Broking)

Turner Pope Investments (TPI) Limited Tel: +44(0)20 3657 0050

Joint Broker

Andy Thacker

IFC Advisory Ltd Tel: +44(0)20 3934 6630

Financial PR

Graham Herring

Zach Cohen

About N4 Pharma

N4 Pharma is a specialist pharmaceutical company developing a novel delivery system for cancer and vaccine treatments using its unique silica nanoparticle delivery system called Nuvec®.

N4 Pharma's business model is to partner with companies developing novel antigens for cancer and vaccine treatments to use Nuvec® as the delivery vehicle to get their antigen into cells to express the protein needed for the required immunity. As these products progress through pre clinical and clinical programs, N4 Pharma will seek to receive up front payments, milestone payments and ultimately royalty payments once products reach the market.

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