

25 October 2013

**Verona Pharma plc**  
("Verona Pharma" or the "Company")

**Clinical studies published in The Lancet Respiratory Medicine highlight RPL554 as a promising novel potential treatment for asthma and COPD**

Verona Pharma plc (AIM: VRP), the drug development company focused on "first-in-class" medicines to treat respiratory diseases, announces that a new research paper entitled "*Efficacy and safety of RPL554, a dual PDE3 and PDE4 inhibitor, in healthy volunteers and in patients with asthma or chronic obstructive pulmonary disease: findings from four clinical trials*" is now available on-line in The Lancet Respiratory Medicine.<sup>1</sup> The peer-reviewed paper highlights the potential of Verona Pharma's lead pipeline drug, RPL554, to reverse the narrowing and reduce the inflammation of airways quicker and with fewer side effects compared to current treatments.

In summary, the results from four proof-of-concept clinical trials with RPL554 showed that this novel dual PDE 3/4 inhibitor was well tolerated by healthy subjects, allergic asthmatics and patients with chronic obstructive pulmonary disease (COPD). The drug showed a rapid and sustained bronchodilator activity at least as effective as the benchmark therapy salbutamol across a range of doses, along with a highly significant anti-inflammatory activity. These studies demonstrate the importance of PDE3 in regulating airways tone in healthy and diseased airways and the role of PDE4, possibly together with PDE3, in regulating airways inflammation. Verona Pharma is initially pursuing development of the drug in a nebulized format suitable for the treatment of severe COPD patients, a significant unmet medical need with few novel approaches in clinical development. RPL554 is also suitable for incorporation into dry powder inhaler (DPI) and pressurised metered dose inhaler (pMDI) devices, likely to be part of long-term development plans for the agent.

Professor Clive Page, King's College London, study lead and Non-executive Chairman of Verona Pharma said, "These studies give us a glimpse into the potential bronchodilator, bronchoprotective, and anti-inflammatory effects of this drug. So far trials have run for seven days or less and there is a need to look at longer-lasting effects. Further studies are needed to better understand the full potential of this new therapy for COPD and asthma."

Dr Jan-Anders Karlsson, CEO of Verona Pharma commented, "The results detailed in The Lancet Respiratory Medicine, a highly respected medical journal, describe the large volume of clinical data that supports our further development of RPL554 as an effective new treatment option for patients with obstructive and inflammatory airways diseases. To the best of our knowledge, this drug is the first novel class of potent bronchodilator since the advent of  $\beta$ 2-agonists and anti-cholinergic agents several decades ago. This, together with its anti-inflammatory activity, confirms our intended initial positioning as a drug for severe COPD, a significant unmet medical need".

In addition, a linked Comment will be published alongside the paper on Friday 25 October. An audio interview with Professor Clive Page will appear on The Lancet Respiratory Medicine homepage, <http://www.thelancet.com/journals/lanres/issue/current>, on Monday 4 November.

The full abstract of the paper can be accessed by following this weblink: [http://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(13\)70187-5/abstract](http://www.thelancet.com/journals/lanres/article/PIIS2213-2600(13)70187-5/abstract).

**Reference**

1. Lui.G Franciosi, PhD, Prof. Zuzana Diamant, MD, Katharine H Banner, PhD, Rob Zuiker, MD, Nicoletta Morelli, MD Ingrid Kamerling, PhD, Marieke L. de Kam MSc, Prof. Jacobus Burggraaf, MD, Prof. Adam.F.Cohen, MD Prof Mario Cazzola, MD, Luigino Calzetta, PhD, Prof. Dave Singh, MD, Domenico Spina, PhD, Prof Michael J.A. Walker, PhD and Prof. Clive P Page, PhD. Published Online in The Lancet Respiratory Medicine, October 25, 2013, [http://dx.doi.org/10.1016/S2213-2600\(13\)70187-5](http://dx.doi.org/10.1016/S2213-2600(13)70187-5).



for cough, grew by 10% over 2005-10, to reach GBP532 million in UK [source: Mintel]. However, there is very little clinical evidence for such OTC cough medications being really effective and it is widely recognised by the medical community that there is a large need for more effective drugs to control and prevent pathologically induced coughing.