

November 24, 2014



# **VolitionRx to Present Positive Data from Pilot Lung Cancer Study at BioWin Day 2014**

**Pilot study demonstrates that NuQ(R) tests able to detect lung cancer in 85% of patients using sputum and 76% using blood**

**Findings are the first using NuQ(R) platform outside blood and provide basis for further research using VolitionRx's proprietary Nucleosomics(R) platform for lung cancer detection**

NAMUR, Belgium, Nov. 24, 2014 /PRNewswire/ --[VolitionRx Limited](#) (OTCQB: VNRX), a life sciences company focused on developing diagnostic tests for cancer and other conditions, today announced that data from its pilot lung cancer study will be presented at the Science for Business BioWin Day 2014, being held November 26, 2014 in Louvain-la-Neuve, Belgium. The data come from VolitionRx's lung cancer pilot study, the samples for which were collected at the Pneumology department of the Centre Hospitalier Universitaire (CHU) de Liege in Belgium. The study assessed the ability of VolitionRx's proprietary NuQ<sup>®</sup> platform to detect lung cancer in both blood and sputum (airway secretions, or mucus coughed up from the lower respiratory tract).

VolitionRx lead scientist Marielle Herzog, Ph.D., will present the lung cancer data during the meeting's "Company Presentations" session from 2:00 - 3:30 p.m. CET. BioWin Day is the international networking event that BioWin, the Health Cluster of Belgium's Wallonia region, organizes once every two years, and the only formal event that gathers stakeholders active in the health, biotechnologies and medical technologies sector in Wallonia.

Currently, most lung cancers are first diagnosed based on symptoms, which generally reflect damage to the lungs' ability to function normally[i]. Unlike mammography for breast cancer or colonoscopy for colorectal cancer, a screening tool for early-stage lung cancer is not available beyond the American Society of Clinical Oncology's (ASCO) guidelines suggesting annual screening with a low-dose computed tomography scan (LDCT) for individuals at high risk for lung cancer[i]. A simple, accurate, cost-effective test could help detect lung tumors in their earliest stages, when many physicians believe the tumors are most curable[i].

VolitionRx's prospective study tested both blood and sputum samples from 46 individuals with either non-small cell lung cancer, chronic obstructive pulmonary disease (COPD) or with no disease (healthy) across various NuQ<sup>®</sup> assay panels.

In sputum samples, the analysis demonstrated that VolitionRx's NuQ<sup>®</sup> test was able to detect 18 of 21 lung cancer cases (85%) with no false positive results for healthy subjects (0 of 13). Furthermore, NuQ<sup>®</sup> assays were able to discriminate lung cancer from COPD,

another important respiratory disease linked to habitual smoking. The sputum assay data is age and smoking independent.

In blood samples from the same patients adjusted for age and smoking risk, the NuQ<sup>®</sup> assays were able to detect 16 of the 21 patients with cancer (76%) with a single false positive result for a healthy subject (1 of 13). This test was also able to discriminate lung cancer from COPD.

Overall, the technology in both blood and sputum samples appeared to detect both early and late stage lung cancer with high sensitivity and specificity, but further research with a larger number of samples is required to confirm this outcome.

Chief Scientific Officer Dr. Jacob Micallef, Ph.D., remarked, "Detection of lung cancer is a huge unmet medical need, so these data demonstrating, in a small number of subjects, that our NuQ<sup>®</sup> assays are able to detect lung cancer with high accuracy are extremely promising. Furthermore, this research showing NuQ<sup>®</sup> tests work both in blood and airway secretions demonstrates for the first time that the Nucleosomics<sup>®</sup> technology is useful in a body fluid other than blood, greatly extending its potential applications. We look forward to continuing to develop and evaluate our assays for lung cancer in larger trials that we are currently negotiating."

Head of the Pneumology Department, CHU Liège, Pr Renaud Louis said, "These data appear to be very promising as the NuQ<sup>®</sup> test not only differentiated lung cancer from healthy subjects but also from COPD, another disease related to tobacco consumption in which oxidative stress is supposed to play a major role. On the other hand I find it very interesting that analysis of airway secretion sampled by a non-invasive method may yield such a sensitivity and specificity in lung cancer detection."

The NuQ<sup>®</sup> tests utilize the Company's proprietary Nucleosomics<sup>®</sup> platform, which identifies and measures circulating nucleosome structures for the presence of epigenetic cancer and signals within the blood, and now within sputum.

In addition to this study, other clinical trials assessing the effectiveness of VolitionRx's assays include:

- A 4,800 patient retrospective symptomatic population study in colorectal cancer at Hvidovre Hospital, University of Copenhagen, Denmark
- A 14,000 patient prospective screening study in colorectal cancer at Hvidovre Hospital, University of Copenhagen, Denmark
- A 4,000 patient prospective study that involves patients with the 20 most prevalent cancers at University Hospital in Bonn, Germany
- A 250 patient prospective study in colorectal cancer at CHU-UCL Mont Godinne Hospital, Belgium
- A retrospective study with MD Anderson, Texas, to establish the efficacy of VolitionRx's NuQ<sup>®</sup> tests to distinguish anaplastic prostate cancer, a particularly aggressive form of the disease, from typical castration resistant prostate cancer (CRPC), the less aggressive form.
- A prospective study with the University of Oxford, United Kingdom, to assess VolitionRx's NuQ<sup>®</sup> tests for the diagnosis of endometriosis.

## **About VolitionRx**

VolitionRx is a life sciences company focused on developing diagnostic tests for cancer and other conditions. The tests are based on the science of Nucleosomics, which is the practice of identifying and measuring nucleosomes in the bloodstream or other bodily fluid - an indication that disease is present.

VolitionRx's goal is to make the tests as common and simple to use, for both patients and doctors, as existing diabetic and cholesterol blood tests. VolitionRx's research and development activities are currently centred in Belgium as the company focuses on bringing its diagnostic products to market first in Europe, then in the US and ultimately, worldwide.

Visit VolitionRx's website ([www.volitionrx.com](http://www.volitionrx.com)) or connect with us via [Twitter](#), [LinkedIn](#) or [Facebook](#).

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### **Safe Harbor Statement**

Statements in this press release may be "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, that concern matters that involve risks and uncertainties that could cause actual results to differ materially from those anticipated or projected in the forward-looking statements. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates," "optimizing," "potential," "goal," "suggests" and similar expressions identify forward-looking statements. These forward-looking statements relate to the effectiveness of the Company's bodily-fluid-based diagnostic tests as well as the Company's ability to develop and successfully commercialize such test platforms for early detection of cancer. The Company's actual results may differ materially from those indicated in these forward-looking statements due to numerous risks and uncertainties. For instance, if we fail to develop and commercialize diagnostic products, we may be unable to execute our plan of operations. Other risks and uncertainties include the Company's failure to obtain necessary regulatory clearances or approvals to distribute and market future products in the clinical IVD market; a failure by the marketplace to accept the products in the Company's

development pipeline or any other diagnostic products the Company might develop; the Company will face fierce competition and the Company's intended products may become obsolete due to the highly competitive nature of the diagnostics market and its rapid technological change; and other risks identified in the Company's most recent Annual Report on Form 10-K and Quarterly Report on Form 10-Q, as well as other documents that the Company files with the Securities and Exchange Commission. These statements are based on current expectations, estimates and projections about the Company's business based, in part, on assumptions made by management. These statements are not guarantees of future performance and involve risks, uncertainties and assumptions that are difficult to predict. Forward-looking statements are made as of the date of this release, and, except as required by law, the Company does not undertake an obligation to update its forward-looking statements to reflect future events or circumstances.

[i] **LungCancer.org**. "Screening for Lung Cancer." Available at: [http://www.lungcancer.org/find\\_information/publications/163-lung\\_cancer\\_101/274-screening](http://www.lungcancer.org/find_information/publications/163-lung_cancer_101/274-screening)

To view the original version on PR Newswire, visit: <http://www.prnewswire.com/news-releases/volitionrx-to-present-positive-data-from-pilot-lung-cancer-study-at-biowin-day-2014-300000126.html>

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