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Lab Tests Confirm Power of Ancon Medical Technology to Find Disease ‘Fingerprints’ in Breath

Nanoparticle Biomarker Tagging (NBT) Device Offers Affordable, Easy-to-Use Disease Screening Solution

BLOOMINGTON, Minn. - A series of laboratory tests have verified the sensitivity and accuracy of the revolutionary health screening technology developed by Ancon that detects the signs of disease in the exhaled breath of a test subject.

The tests, one conducted at sister-company Ancon Technologies' laboratory in the United Kingdom and another at an independent European research facility in Hungary, verified the selectivity and sensitivity of Ancon Medical's Nanoparticle Biomarker Tagging technology. The tests compared NBT technology against gas chromatography–mass spectrometry, the widely-used technology used to identify substances within a test sample.

Ancon Medical's NBT technology detects special organic compounds, known as “biomarkers,” that serve as indicators of specific diseases. The biomarkers are present in the exhaled breath of an infected patient.

“These tests confirm what our researchers at Ancon Medical knew when developing Nanoparticle Biomarker Tagging, which is that it has the had the potential for cutting-edge advances in disease screening sensitivity,” said Ancon Medical CEO Wesley Baker. “The demonstrations show that not only is NBT more sensitive than the leading identification technology, but also that it can successfully and accurately find the telltale chemical fingerprints of a disease which is the holy grail and star trek based technology.”

The tests proved that Ancon Medical's NBT technology is up to 10,000 times more selective than similar technology. While gas chromatography–mass spectrometry needs as many as 100 million molecules in a test sample to detect the biomarker, NBT needs a concentration of only 60 molecules per cubic centimeter.

In the tests, researchers were able to add the known lung cancer biomarker to the exhaled breath of test subjects, and subsequently detect the biomarker. The technology works by ionizing target molecules, allowing them to first be tagged and then individually counted using optical techniques.

And unlike gas chromatography–mass spectrometry, which requires expensive, bulky equipment and specially-trained operators, Ancon Medical's NBT device is portable, user-friendly and at a target price of \$29,500, it's affordable for many hospital and clinic settings. The NBT device can produce a result in minutes and is easy to operate requiring only minimal training, which lets the device be used by operators with limited medical or technological experience.

“With more than 400 known biomarkers already identified, NBT shows enormous potential to make disease screening simpler, cheaper and more effective,” Baker said. “With lung cancer, studies show that early treatment of lung cancer resulted in 57 percent of patients surviving longer than five years, compared with only a nine percent survival rate when treatments are started late. The benefits of NBT will be enormous.”

The tests also showed that NBT stands at technology readiness level 6, an international standard used to measure the maturity of a prototype system. Level 6 demonstrates that the system is tested in a relevant environment and represents a major advance in readiness for a prototype or representative model. The TRL method measures technology on a scale from 1-9, with TRL 1 representing the research phase of technology and TRL 9 indicating the technology is ready for full deployment. TRL 6 indicates that the technology is beyond the research phase and into the demonstration phase.

Ancon Medical’s NBT technology is a disruptive high tech product, and Baker says “it will inevitably change the way screening and disease occurs and naturally within the healthcare industry it will be up against much older technology companies that will not want to see Ancon succeed”.

To further advance NBT technology, Ancon Medical is currently seeking additional strategic business partners and financial investors.

“With additional funding, NBT technology can be made even more compact, versatile and effective,” Baker said. “Though nanoparticles are diminutive, the potential for improved healthcare from better disease screening through NBT technology is huge.”

Ancon Medical, and its associated company Ancon Research Ltd., has patents on NBT technology in both the U.S. and U.K. Ancon Medical is a member of Medical Alley, a biomedical trade association based in Minnesota.

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