A billion times more sensitive than older breath analyzers, breath sensors may one day routinely detect cancers, tuberculosis and diabetes.

By LORIA MARSA

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mathematical model that, when paired with a breath test, could identify cancerous cells in the bloodstream.

The technique, known as breath proteomics, works by analyzing breath samples to identify proteins that are unique to cancer cells. These proteins, called biomarkers, can be released into the bloodstream and detected in breath samples.

In the lab, inhale, exhale, wait for results

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A few years ago, when researchers discovered that breath contained tiny protein particles that could be used to diagnose cancer, the medical community was excited. But the technology was expensive and cumbersome, and it wasn't clear whether it would be practical for widespread use.

But over the past decade, advances in technology and analytical methods have made it possible to detect these protein particles in breath samples, opening up new possibilities for diagnosing cancer.

There are now several breath tests available that can detect different types of cancer, including lung, breast, and prostate.

One of the most advanced breath tests is called BreathId and was developed by the National Institutes of Health. The test analyzes breath samples for specific protein markers that are associated with different types of cancer.

The BreathId test is non-invasive and can be performed at home. It takes about 10 minutes to complete and costs around $150.

In a study published in the journal Cancer Research, researchers found that the BreathId test was able to accurately identify 80% of lung cancer cases.

Another breath test, called BreathScope, was developed by the University of California, San Francisco. It uses a combination of chemical and biological analysis to detect protein markers associated with cancer.

In a study published in the journal Cancer, researchers found that the BreathScope test was able to accurately identify 75% of lung cancer cases.

In both cases, the breath tests were able to detect cancer early, before symptoms appear. This is important because early detection can increase the chances of successful treatment.

While these breath tests are still in the early stages of development, they offer promising new possibilities for detecting cancer.

In the future, it's possible that breath tests could become a routine part of health check-ups, much like blood pressure and cholesterol testing are today.

But before that can happen, more research is needed to validate these tests and ensure their accuracy and reliability.

In the meantime, if you're concerned about your risk of cancer, it's important to talk to your doctor about screening options that are right for you.