Nodify CDT™ Test Executive Summary

Lung cancer is the number one cause of cancer deaths in both men and women in the United States. The overall 5-year survival is only 22%, due in part to the fact that lung cancer is often not diagnosed until the patient has noticeable symptoms such as: coughing up blood, shortness of breath, chest pain, and weight loss.[1] Lung cancer is most often asymptomatic while it is progressing through the earlier stages, which results in numerous late stage diagnoses. Unfortunately, the best chance patients and physicians have to treat lung cancer is at that earlier, clinically silent stage where few cases are detected and diagnosed. One window available to identifying these early stage lung cancers is in the indeterminant pulmonary nodules (IPNs) that are generally detected incidentally by x-rays and scans done for other reasons: chest trauma, evaluation for blood clots in the lungs, and evaluation of heart disease. It is estimated that more than 800,000 lung nodules between 8-30mm in diameter are detected annually in the US – a number that is increasing with more imaging and low-dose computed topography (LDCT) screening programs. With a growing identification of pulmonary nodules within the United States, the effective management of incidental lung nodules will be of increasing importance for patients, physicians, and insurance plans. Some of these nodules are due to early stage lung cancer, which is often curable with surgery. However, an estimated 25% of malignant nodules are followed with CT surveillance before a clinical diagnosis is made.[2] This is where certain blood-based biomarker testing, such as the Nodify CDT™ test, can help.

The Nodify CDT™ test is a blood-based lung nodule test that measures a panel of seven autoantibodies (AABs) to tumor-associated antigens (TAAs) that have been shown to be elevated for all types of lung cancer and from the earliest stage of the disease.[3] AABs can be detected swiftly and accurately in blood, reportedly a median of four years prior to clinical diagnosis, due to their amplification as a result of the immune response to lung cancer, thus allowing detection even in early stages.[4] By measuring the immune response to TAAs, the Nodify CDT test is a non-invasive tool that provides an enhanced and independent means of estimating the probability of a pulmonary nodule (PN) being malignant.[5,6] The Nodify CDT test has been extensively validated analytically and clinically in multi-center peer-reviewed studies.[3-7,8,9,10,12,13] With high specificity[1], the test has been optimized to complement the high sensitivity[2] of computed tomography (CT) and other highly sensitive diagnostic testing, such as the Nodify XL2 test, to help identify those patients with a PN who are, in fact, at higher risk of a lung cancer being present. Use of the test provides a favorable improvement of benefits over harms,[5,10] and it is highly cost effective for the intended use.[11]

The Nodify CDT test is a "rule in" type test and only impacts clinical management following a positive result. A positive result may escalate a patient being managed by CT surveillance or undergoing additional testing (e.g., PET) to immediate evaluation with diagnostic procedures (e.g., bronchoscopy, biopsy, and/or surgery). Test results are reported as No Significant Level of Autoantibodies Detected (NSLAD), Moderate Level (Moderate), or High Level (High), depending on the measured level of AABs. Specifically, a positive High Nodify CDT result has a positive predictive value (PPV) of 78% (based on an average lung cancer prevalence of 20% in the intended use population) representing a 5.7 fold increased risk of lung cancer as compared to the No Significant Level of Autoantibodies Detected result, and a positive Moderate result represents a 2.0 fold increase in risk.[6,12,13] Overall, the Moderate and High

[1] Specificity is the percentage of healthy individuals correctly identified with a negative test result. High specificity means a low percentage of healthy individuals will receive a false positive result.
[2] Sensitivity is the percentage of patients with lung cancer correctly identified with a positive result. In the case of CT, sensitivity is high as most lung cancers are detected by CT, but specificity is lower because many CT findings are false positives.

positive result as a whole represent a 4.3-fold increase in risk as compared to a No Significant Level of Autoantibodies Detected result. As such, the Nodify CDT test may have significant clinical utility in guiding nodule management decisions, potentially accelerating diagnosis of malignant nodules and reducing the risk of disease progression during monitoring. Studies to further prove utility of the Nodify CDT test in the clinical setting are currently underway.

Key Points:

1. **Nodify CDT testing provides independent identification of increased risk of malignancy in pulmonary nodules to help guide management of the nodule.**
    - Nodify CDT results of "No Significant Level of Autoantibodies Detected (NSLAD)": Lung nodule presents no increased risk of malignancy should be managed according to clinical guidelines and/or physician judgement
    - Nodify CDT results of "Moderate Level" or "High Level": Lung nodule presents an increased risk of malignancy and guideline-recommended evaluation (PET scan, biopsy, and/or surgery) may be the advisable course of management.
2. **The Nodify CDT test is a blood-based proteomic test that does not require tissue or additional surgical biopsy.**
    - Provides actionable information to help physicians make a more informed nodule management decision for patients by calculating personalized risk of lung cancer and identifying those with a higher risk of malignancy than indicated by traditional clinical factors alone.
3. **Nodify CDT testing has fast turnaround time.**
    - Nodify CDT results are delivered in as little as one day following a standard blood draw, which helps physicians detect lung cancer quickly and begin taking the appropriate next steps without delay.

List Price: $649 USD

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