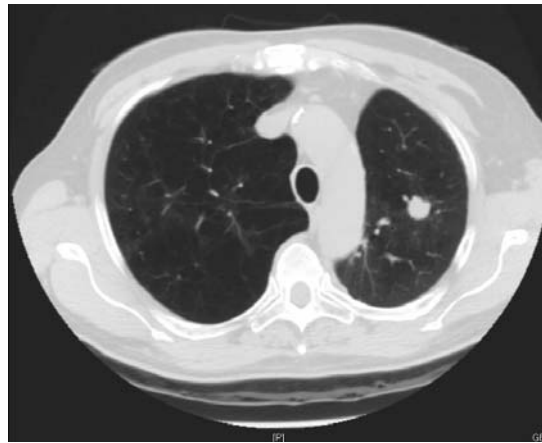


## *Antibody test for the diagnosis of Small Cell Lung Cancer (SCLC)*

**Market Sector: Diagnostics**



*Figure 1: CT scan of a cross-cut section of the lungs showing a tumor on the right side.*

Scientists from Leiden University Medical Center have succeeded to produce a number of tumour specific proteins in an E.coli expression system that can be used in an antibody test for the diagnosis of Small Cell Lung Cancer (SCLC). SCLC is an aggressive tumour form, strongly associated with smoking, with a median survival of approximately 10 months. Unfortunately, it can be very difficult to diagnose SCLC in patients with nonspecific lung symptoms or small lesions on a computertomography of the thorax. A proportion of these patients (64%) have antibodies in their serum which are directed against tumour specific proteins.

The scientists of the LUMC are now able to produce the tumour specific proteins Sox-1, Sox-2, Sox-3 and Sox-21 in an E. Coli expression system. This provides a high quality and highly reproducible source of protein. It allows for the use of these proteins in Western blot, ELISA or RIA to test for the presence of serum antibodies.



**CT, or computed tomography, was until now the only way to determine SCLC. After that, bronchoscopy or CT-guided needle biopsy has to be performed to obtain a tissue sample to determine SCLC. The use of the Sox proteins in an ELISA, Western blot or RIA offers a non-invasive method that predicts the presence of a SCLC with a high specificity. The methodology does not exclude bronchoscopy or CT-guided needle biopsy but offers diagnosis of SCLC at a much earlier stage.**

<p><b>Keywords</b> Carcinogenesis, Lung Cancer, Paraneoplastic Disease, Human Health, Diagnostics.</p> <p><b>Current study</b> Several other proteins are identified as targets of an autoimmune response against the SCLC. These antigens have now been produced in the E. Coli expression system. Studies are ongoing to test the diagnostic value of a more extensive panel of these antigens in a large group of SCLC patients.</p>	<p><b>Key Benefits</b></p> <ul style="list-style-type: none"> <li>• Early stage diagnostics of cancer.</li> <li>• Unique marker for SCLC with a high specificity</li> <li>• Non-invasive technology.</li> </ul> <p><b>Applications</b> The use of Sox proteins in an ELISA or Western blot to determine SCLC. A combination of several proteins in one assay can be developed into a diagnostic test that provides a high specificity.</p> <p><b>Commercial Partner</b> Producers and distributors of antibodies and antigens, biotechnological and pharmaceutical company with expertise in diagnostics applications. The scientists are open towards research collaboration.</p>
---	--

*Contact details*

J.T.P.Gubbens, Tech Transfer Officer, [j.t.p.gubbens@lumc.nl](mailto:j.t.p.gubbens@lumc.nl)

Tel. (071) 526 3033, Fax (071) 5265433

[www.lumc.nl](http://www.lumc.nl)

Leiden University Medical Center (LUMC) is strongly committed to the advancement of health care, through research and innovation. In particular, the focus is on translational research, with the overall aim to accelerate transfer of findings from the laboratory to clinical application, and to the market.

LUMC has a reputation as a pioneering institute in its field, both nationally and internationally.