

Gene which protects against lung cancer identified

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(PhysOrg.com) -- A study led by researchers at The University of Nottingham has identified a gene that protects the body from lung cancer.

The research, published in the journal *Proceedings of the National Academy of Sciences*, USA and funded by a £72,000 grant from the British Lung Foundation, has found that the tumour suppressor gene, LIMD1, is responsible for protecting the body from developing lung cancer — paving the way for possible new treatments and early screening techniques.

Lead researcher Dr Tyson Sharp and his University of Nottingham team, together with US collaborator Dr Greg Longmore, set out to examine if loss of the LIMD1 gene correlated with lung cancer development.

The University of Nottingham team examined lung cancer tissue from patients with the disease and compared it to healthy lung tissue. They found that the LIMD1 gene was missing in the majority of lung cancer samples, indicating that the presence of the LIMD1 gene protects the body against lung cancer.

Dr Greg Longmore's team in the USA supported these findings, using a mouse without the LMID1 gene which developed lung cancer.

Dr Sharp said: "The LIMD1 gene studied in this research is located on part of chromosome 3, called 3p21.

"Chromosome 3p21 is often deleted very early on in the development of lung cancer due to the toxic chemicals in cigarettes, which implies that inactivation of LIMD1 could be a particularly important event in early stages of lung cancer development.

"We are now going to extend these finding by developing LIMD1 as a novel prognostic tool for detection of early stage lung cancer."

Lung cancer is the UK's biggest cancer killer, claiming around 33,600 lives a year. Ninety per cent of cases are caused by smoking. At present lung cancer is often detected late, meaning that 80 per cent of patients die within a year of being diagnosed.

Dame Helena Shovelton, Chief Executive of the British Lung Foundation said: "This is very exciting research which could lead to the development of early screening techniques and treatments for lung cancer. We are very proud to have made this breakthrough possible".

Provided by University of Nottingham

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