

# Scientists discover new protein involved in lung cancer

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Scientists from The University of Manchester – part of the Manchester Cancer Research Centre (MCRC) - have discovered a new protein that is involved in cancer and inflammation in lung tissue.

The findings, published in the *Journal of Biological Chemistry*, could help in the development of new drugs to target [lung cancer](#).

Lung cancer is the most common cause of [cancer death](#) in Greater Manchester, with around 930 men and 790 women dying from the disease every year in the area.

While there have been major advances in treatments and outcomes for some cancers over the past 60 years, lung cancer patients have enjoyed few of these improvements and new therapies have not made a difference to their survival.

The research by the Manchester team looked at glucocorticoids, the hormones that regulate inflammation and energy production in cells in the body. In lung cancer these hormones are known to play a role in controlling [cell growth](#).

Glucocorticoids work through receptors, and this new research reveals how these receptors work. In particular, a newly discovered enzyme, known as Merm1, was discovered to be essential for glucocorticoids to work normally. Merm1 was found to be suppressed in lung inflammation, and in cancer.

Professor David Ray, Professor of Medicine and Endocrinology at The University of Manchester who led the research, said: "We know that resistance to glucocorticoids happens in various inflammatory diseases, as well as cancer, in [lung tissue](#). We wanted to explore whether a protein, known as Merm1, was involved in this resistance and therefore involved in controlling the [uncontrolled cell growth](#) that is the hallmark of cancer."

The study showed Merm1 controls the binding between a glucocorticoid receptor and its target genes. This step is essential for the receptor to work, and to control cell growth, and division. More importantly, it revealed that [inflammation](#), as seen in asthma or bronchitis, results in loss of Merm1.

Professor Ray said: "This work shows that targeting Merm1 could offer a new strategy in developing anti-inflammatory treatments.

Dr Toryn Poolman, from The University of Manchester and MCRC who also worked on the research, said: "The study has given us a new insight into the mechanisms at play in [lung inflammation](#) and lung cancer. We believe it could provide a new area to target drugs in lung cancer."

Provided by University of Manchester

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