

Tumor 'black box' could pinpoint the cause of each patient's cancer, researchers say

The cause of cancer is written into the DNA of tumours, scientists have discovered, in a breakthrough which could finally show how much disease is attributable to factors like air pollution or pesticides.

Until now the roots of many [cancers](#) have proved elusive, with doctors unable to tease out the impact of a myriad of carcinogenic causes which people encounter everyday.

Even with lung cancer, it is not known just how much can be attributed to smoking and how much could be linked to other factors, such as living by a busy road, or inhaling pollutants at work.

But now scientists at [Cambridge University](#) and [King's College London](#) have shown that tumours hold information like a 'black box' pointing to the cause of disease.

They exposed stem cells to dozens of known carcinogens and recorded how each alters its DNA code as cancer forms. It provides a 'fingerprint' or 'mutational signature' of the underlying cause and could even show which was the biggest culprit.

The researchers have [released April 15] a [catalogue](#) of the signatures caused by 41 environmental agents.

Read full, original post: [Cause of cancer is written into DNA of tumours, scientists find, creating a 'black box' for origin of disease](#)