

Scientists identify new cancer stem cell mechanism

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Scientists at Queen Mary, University of London have uncovered a link between two genes which shows how stem cells could develop into cancer.

Provided by Queen Mary, University of London

The research, published in the online journal [PLoS ONE](#), found a novel mechanism which could be the catalyst for [stem cells](#) changing into a tumour.

Dr Ahmad Waseem, a reader in oral dentistry at Queen Mary, University of London who led the research, said: "It was quite an unexpected discovery. We set out to investigate the role of the stem cell gene Keratin K15 which was thought to be a biomarker for normal stem cells.

"Through our research, we discovered there was link between K15 and the notorious cancer gene FOXM1. We found FOXM1 could target K15 to induce [cancer formation](#)."

Cancer develops when there is a problem with stem cells; the cells that carry out internal repairs throughout the human body. The loss of stem cell function leads to uncontrolled growth which ultimately develops into a tumour.

The team went through a process where they used extremely sensitive cell and molecular approaches to establish this link.

The study, funded by the Facial Surgery Research Foundation, Saving Faces, paves the way towards identifying new anti-cancer drugs which could be tailored towards cancer stem cells.

Consultant oral and maxillofacial surgeon Professor Iain Hutchison, founder of Saving Faces and co-author on the study, said: "We are excited about this finding as it could lead to more effective [cancer drugs](#) being developed to target cancer stem cells and prevent [cancer recurrence](#)."

More information:

dx.plos.org/10.1371/journal.pone.0038599

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