

New method to detect aging cells and advance rejuvenation therapies

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Scientists have discovered a new way to look for ageing cells across a wide range of biological materials; the new method will boost understanding of cellular development and ageing as well as the causes of diverse diseases.

Frustrated by the limitations of commercially available biomarkers researchers led by The University of Manchester's Professor Paul Townsend and senior author of the resulting paper, and honorary professor at Manchester, Professor Vassilis Gorgoulis, have developed a universally applicable method to assess senescence across biomedicine, from cancer research to gerontology.

Cellular senescence is a fundamental biological process involved in every day embryonic and adult life, both good – for normal human development – and, more importantly to researchers, dangerous by triggering disease conditions. Up to now available senescence detecting biomarkers have very limited and burdensome application. Therefore, a more effective, precise and easy-to-use biomarker would have considerable benefits for research and clinical practice.

"The method we have developed provides unprecedented advantages over any other available senescence detection products – it is straightforward, sensitive, specific and widely applicable, even by nonexperienced users," said Professor Townsend.

"In addition to helping researchers make significant new breakthroughs



into the causes of diseases – including cancer – through more effective understanding of senescence in cells, the new process will also aid the impact of emerging cellular rejuvenation therapies.

"By the better identification – and subsequently elimination of – <u>senescent cells</u>, tissues can be rejuvenated and the health span extended."

The research on the new methodology – published as 'Robust, universal biomarker to detect senescent cells in biological specimens' in the journal *Ageing Cell* – has led to two pending UK patents.

More information: 'Robust, universal biomarker to detect senescent cells in biological specimens' in the journal *Ageing Cell*

Provided by University of Manchester

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