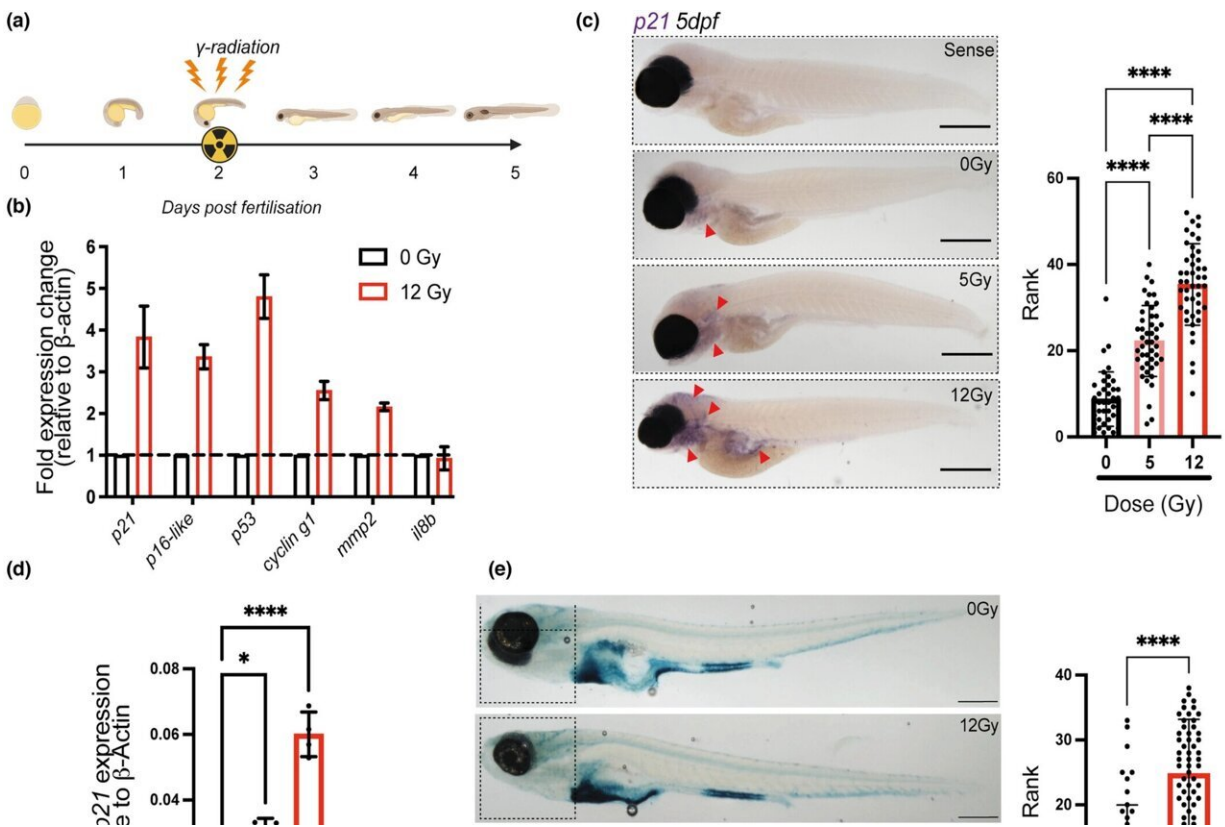


A zebrafish model of senescence for rapid testing

April 17 2023



Irradiation of zebrafish larvae upregulates multiple markers of senescence. (a) Diagram depicting the experimental protocol used to induce senescence in zebrafish larvae using Cs_{137} . Credit: *Aging Cell* (2023). DOI: 10.1111/accel.13835

Senescence (the process of growing old) drives the onset and severity of multiple aging-associated diseases and frailty. As a result, there has been

an increased interest in mechanistic studies and the search for compounds targeting senescent cells. Current methods are both expensive and time consuming but researchers from the University of Sheffield's Healthy Lifespan Institute have found an answer to the problem.

Led by Professor Ilaria Bellantuono co-director of The Healthy Lifespan Institute and Professor Steve Renshaw from the Department of Infection, Immunity and Cardiovascular Disease, researchers have developed a new model which allows tracking and measuring the number of senescent cells in a living organism. The model can develop senescence in as little as five days in a tissue culture dish.

Zebrafish share high homology in genes associated with human aging and disease and can be genetically modified relatively easily. In [larvae](#), most organs develop within five days of fertilization and are transparent, which allows tracking of fluorescent cells in vivo in real time, testing drug off-target toxicity and assessment of cellular and phenotypic changes. This method enables scientists to investigate [senescent cells](#) prior to using more expensive and time-consuming mammalian systems.

The paper is published in the journal *Aging Cell*.

More information: Samir Morsli et al, A p21-GFP zebrafish model of senescence for rapid testing of senolytics in vivo, *Aging Cell* (2023).
[DOI: 10.1111/accel.13835](https://doi.org/10.1111/accel.13835)

Provided by University of Sheffield

Citation: A zebrafish model of senescence for rapid testing (2023, April 17) retrieved 24 June 2024 from <https://phys.org/news/2023-04-zebrafish-senescence-rapid.html>

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