Clearance of Senescent Cells by Activation of the Immune Response

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INVENTION NOVELTY

Researchers at UCSF have developed a method to selectively clear senescent cells by stimulating an immune response. Accumulation of senescent cells underlies a number of disease conditions and age-related pathologies. Current approaches to clear this cell type use senolytics, these are small-molecules that induce cell death of the senescent cells. Unfortunately, these compounds are not truly specific and affect other non-pathogenic cells. UCSF researchers eliminate these off-target effects by utilizing the body's immune system to selectively target senescent cells for clearance. They do this by activation and expansion of certain immune cells. Stimulating the immune system to clear these cells is unprecedented in the field and offers a new therapeutic modality to treat senescence associated conditions. The technology has been fully validated in a laboratory setting.

VALUE PROPOSITION

- First example of targeted senescent cell clearance through immune cell activation
- Eliminates the off-target effects of senolytics
- Relies upon an endogenous clearance mechanism, thus reducing off-target toxicities
- This method can be applied to numerous diseases and age-related pathologies

STAGE OF DEVELOPMENT

Pre-clinical

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20230172984	06/08/2023	2020-118

Additional Patents Pending

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OTHER INFORMATION

KEYWORDS

aging, senescence, immune cells

CATEGORIZED AS

- Medical
- Disease: Autoimmune and Inflammation
- Other
- Therapeutics

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