Elimination of senescent cells improves lung function in mice

4 August 2016

Most cells can divide only a limited number of times and eventually undergo permanent cell cycle arrest, a state known as cellular senescence. Cellular senescence is mediated by activation of specific cellular signaling pathways involving the proteins $p19^{ARF}$ and $p16^{INK4A}$.

Precise control of cell cycle arrest and senescence are important for a number of biological processes, including embryonic development, wound healing, and tissue regeneration. Accumulating evidence also indicates that cellular senescence contributes to tissue aging.

In this issue of *JCI Insight*, Masataka Sugimoto and colleagues at the Juntendo University School of Medicine in Tokyo examined the role of cellular senescence in aging lungs, as there is a well-documented decrease in lung function with age.

Using transgenic mice in which they could selectively eliminate cells that express $p19^{ARF}$, Sugimoto and colleagues demonstrate that the loss of senescent cells improved lung function in mice. Further studies will be required to determine exactly how senescent cells impair lung function.

More information: Michihiro Hashimoto et al, Elimination of p19ARF-expressing cells enhances pulmonary function in mice, *JCI Insight* (2016). DOI: 10.1172/jci.insight.87732 Michihiro Hashimoto et al. Elimination of p19ARF-expressing cells enhances pulmonary function in mice, *JCI Insight* (2016). DOI: 10.1172/jci.insight.87732