

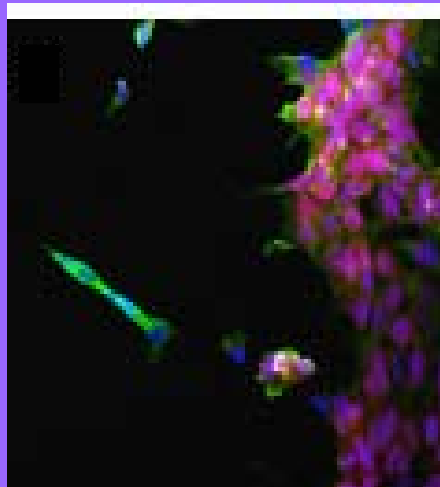
Why does tissue repair decline with age? What are the molecular “culprits” of aging?



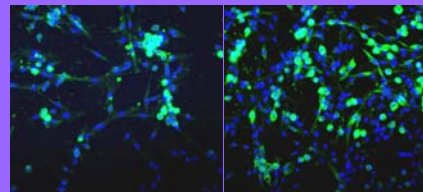
**Is the rate of aging regulated by specialized molecular pathways?
What are those pathways?**

Methods for in situ rejuvenation of tissue regenerative potential in the old

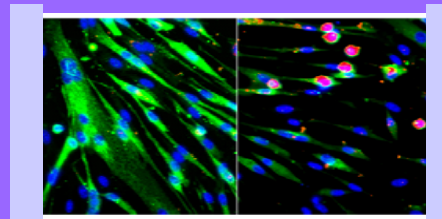
Understanding aging from a stem cell point of view
Aging of stem cell niches



Creating artificial “young” niches for stem cells exposed to **aged environment**



These artificial stem cell niches are also patterned to control distinct cell-fate decisions in the same soluble milieu.

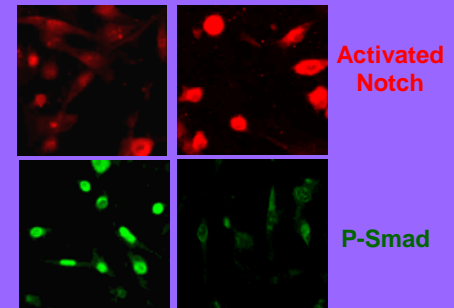


Differentiation Proliferation

Inducible designer viral constructs for stem cell-specific youthful recalibration of signal transduction

Stem cell signal transduction

Aged Rejuvenated



Current reading:

Wagers, and Conboy. Cellular and molecular signatures of muscle regeneration: current concepts and controversies in adult myogenesis. *Cell*. 2005 Sep 9;122(5):659-67.