Understanding the role of aging in cancer

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P. Adams[I]

[I]Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA 92037, United States of America

Age is the biggest single risk factor for most adult human cancers. The reasons for this are not well understood. Aging is associated with multiple so-called "hallmarks of aging", including accumulation of genetic mutations, epigenetic and metabolic changes, telomere shortening, protein misfolding, accumulation of senescent cells, stem cell exhaustion, altered cell – cell communication and changes to the immune system. Many of these hallmarks can be potential drivers of cancer. Our lab is working to dissect the contribution of these hallmarks to the age-dependence of cancer. This can reveal targets for cancer diagnosis, risk assessment and prevention.