

Applicant

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Project Title

Genetic analyses of healthy aging: buffering and exploratory analyses

Project Summary

Genetic variants are like spelling differences in genes. Genetic buffering is when a variant in one gene counteracts the effect of a harmful variant in another gene. It's like having a superhero variant that saves the day when another variant is causing trouble. Genetic buffering is known in fruit flies, where a gene called Hsp90 can counteract harmful variants in many other genes. Little is known about genetic buffering in humans. We are using data from studies of large groups of people to identify potential 'superhero' variants and genes, and the harmful variants they counteract. We have initial findings that we propose to test for consistency in the Canadian Longitudinal Study on Aging. Identifying buffering variants will help us understand their biology, which could lead to the development of drugs to mimic their 'superhero' effects. Such drugs may help people age healthily even if they did not inherit a buffering variant.

Keywords

buffering | CLSA | genetics | healthy aging | super seniors