

'Un-growth hormone' increases longevity

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A compound which acts in the opposite way as growth hormone can reverse some of the signs of aging, a research team that includes a Saint Louis University physician has shown. The finding may be counter-intuitive to some older adults who take growth hormone, thinking it will help revitalize them.

Their research was published in the Dec. 6 online edition of the [Proceedings of the National Academy of Sciences](#).

The findings are significant, says John E. Morley, M.D., study co-investigator and director of the divisions of geriatric medicine and endocrinology at Saint Louis University School of Medicine, because people sometimes take growth hormone, believing it will be the fountain of youth.

"Many older people have been taking growth hormone to rejuvenate themselves," Morley said. "These results strongly suggest that growth hormone, when given to middle aged and older people, may be hazardous."

The scientists studied the compound MZ-5-156, a "growth hormone-releasing hormone (GHRH) antagonist." They conducted their research in the SAMP8 [mouse model](#), a strain engineered for studies of the aging process. Overall, the researchers found that MZ-5-156 had positive effects on oxidative stress in the brain, improving cognition, telomerase activity (the actions of an enzyme which protects DNA material) and [life span](#), while decreasing tumor activity.

MZ-5-156, like many GHRH antagonists, inhibited several human cancers, including prostate, breast, brain and lung cancers. It also had positive effects on learning, and is linked to improvements in short-term memory. The antioxidant actions led to less oxidative stress, reversing [cognitive impairment](#) in the aging mouse.

William A. Banks, M.D., lead study author and professor of internal medicine and geriatrics at the University of Washington School of Medicine in Seattle, said the results lead the team "to determine that antagonists of growth hormone-releasing hormone have beneficial effects on aging."

Provided by Saint Louis University

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