

Does interleukin-10 reduce age-related insulin resistance?

November 16 2016

New research published online in *The FASEB Journal* suggests that the anti-inflammatory molecule IL-10 may do more than just reduce inflammation. In the report, scientists use mice to show that the molecule may also help reduce the normal insulin resistance that is associated with aging. If true in humans, this discovery may represent a significant step toward improving the quality of life as people age.

"I hope that our research findings provide important new insights into the pathogenesis of insulin resistance that develops in aging and, more importantly, shed new light toward therapeutic potential of anti-inflammatory cytokines in the treatment of aging-associated metabolic and [muscle](#) diseases," said Jason K. Kim, Ph.D., a researcher involved in the work and Professor of Molecular Medicine and Director of the National Mouse Metabolic Phenotyping Center at the University of Massachusetts Medical School in Worcester, Massachusetts.

To make their discovery, Kim and colleagues used transgenic mice that overexpress an anti-inflammatory cytokine, IL-10, in skeletal muscle, and found that these mice were protected from aging-associated inflammation and insulin resistance in that tissue. Insulin resistance is an important pathophysiological event in the process of aging and contributes to loss of muscle function and muscle mass with aging. Insulin resistance is also a major characteristic of type 2 diabetes and may be responsible for increased prevalence of type 2 diabetes in the aging population. Therefore, these findings implicate the potential therapeutic role of an anti-inflammatory regimen to treat insulin

resistance, which could have a significant impact on the quality of life in aging humans.

"My colleagues at the University of Massachusetts Medical School have come up with a very interesting new lead, placing IL-10 into the multifaceted landscape of [insulin resistance](#)" said Thoru Pederson, Ph.D., Editor-in-Chief of *The FASEB Journal*. "The hypothesis that IL-10 may even be acting outside its canonical anti-inflammatory axis is fascinating to ponder."

More information: S. Dagdeviren et al, IL-10 prevents aging-associated inflammation and insulin resistance in skeletal muscle, *The FASEB Journal* (2016). [DOI: 10.1096/fj.201600832R](https://doi.org/10.1096/fj.201600832R)

Provided by Federation of American Societies for Experimental Biology

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