

Does a High-Fat Diet Accelerate Biological Aging in Mice?

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ABSTRACT

Age and obesity are risk factors for many chronic diseases. Likewise, age and obesity disrupt normal adipose tissue function, which is linked to the inflammatory response and increased oxidative stress. Telomeres are the endcaps of eukaryotic chromosomes that maintain chromosomal integrity, as well as the

telomeres. However, to date, the shelterin regulation of telomeres in adipose tissue has not been examined. Thus, the present study examined the effect of a high-fat diet and aging on C57Bl6J (N=15) mice. The expression of genes involved in the regulation of telomeres in the inguinal and epididymal white adipose tissue was examined with age and a high-fat diet. TRF1 (TRF1) and 2 (TRF2) are involved in telomere maintenance and protection. TRF1 mRNA levels were significantly reduced in a high-