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Autores	Pardo, Rosario ; Velilla, Marc ; Herrero, Laura ; Cervela, Luis ; Ribeiro, Marcelo L. ; Simó, Rafael ; Villena, Josep A.
Autor (es) USF	Ribeiro, Marcelo L.
Autores Internacionais	Pardo, Rosario ; Velilla, Marc ; Herrero, Laura ; Cervela, Luis; Simó, Rafael ; Villena, Josep A
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Resumo	Introduction: Calorie restriction (CR) exerts multiple effects on health, including the amelioration of systemic insulin resistance. Although the precise mechanisms by which CR improves glucose homeostasis remain poorly defined, SIRT1 has been suggested to act as a central mediator of the cellular responses to CR. Here, we aim at identifying the mechanisms by which CR and SIRT1 modulate white adipose tissue (WAT) function, a key tissue in the control of glucose homeostasis. Material and methods: A gene expression profiling study using DNA microarrays is conducted in WAT of control and SIRT1 transgenic mice fed ad libitum (AL) and mice subjected to 40% CR. Results: Gene expression profiling reveals a relatively low degree of overlap between the transcriptional programs regulated by SIRT1 and CR. Gene networks related to extracellular matrix appear commonly downregulated by SIRT1/CR, whereas mitochondrial biogenesis is enhanced exclusively by CR. Moreover, WAT inflammation is reduced by CR and SIRT1, although their anti-inflammatory effects appeared to be achieved by regulating different gene networks related to the immune system. Concluding remarks: In WAT, SIRT1 does not mediate most of the effects of CR on gene expression. Still, gene networks differentially regulated by SIRT1 and CR converge to reduce WAT inflammation.
Fomento	