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## Identification of candidate genes in stem cell proliferation and CR

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By Michael Plank

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Taschenbuch. Book Condition: Neu. 220x150x7 mm. This item is printed on demand - Print on Demand Neuware - The process of aging is one of the least understood phenomena in biology. This work makes use of two important findings in the field of aging research: First of the conclusion that alterations in the proliferation of stem cells might be linked to the aging process, second that caloric restriction (CR) is a powerful intervention to extend life-span and delay aging associated diseases. In the first part we analysed a shRNA based screen to identify genes involved in the proliferation of stem cells and undertook a flow cytometry based proliferation assay to validate candidates. Secondly we meta-analysed microarray data on different experiments testing gene expression changes associated with CR. In general the obtained candidate genes and categories overlap with previous findings in the field such as the Ghr gene and categories related to lipid metabolism and insulin signaling and therefore suggest biological meaningfulness of the approach. On the other hand, novel functions like xenobiotic metabolism, circadian clock and retinol metabolism are promising to follow up on in the future. Some of the significant genes might...



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