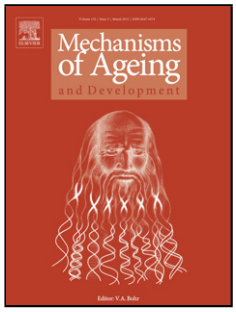

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Ferrosenescence: the iron age of neurodegeneration?

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Highlights:

- **MicroRNA-29 family may lower neuronal iron retention through:**
- **-ferroptosis inhibition by targeting iron regulatory protein-2**
- **-promoting neuronal iron egress by targeting BACE-1 secretase.**
- **MicroRNA-29 family may prevent ferrosenescence through:**
- **-genomic stabilization by preserving DNA methylation**
- **-restoring the integrity of DNA damage-repair system by p53 stabilization**

Abstract

Aging has been associated with iron retention in many cell types, including the neurons, promoting neurodegeneration by ferroptosis. Excess intracellular iron accelerates aging by damaging the DNA and blocking genomic repair systems, a process we define as ferrosenescence.

Novel neuroimaging and proteomic techniques have pinpointed indicators of both iron retention and ferrosenescence, allowing for their early correction, potentially bringing prevention of neurodegenerative disorders within reach.