MicroRNA-15 dysregulation in sporadic Alzheimer’s disease: testing the “multiple hit” hypothesis in neurodegenerative disorders

https://neurodegenerationresearch.eu/survey/microrna-15-dysregulation-in-sporadic-alzheimers-disease-testing-the-multiple-hit-hypothesis-in-neurodegenerative-disorders/

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MicroRNA-15 dysregulation in sporadic Alzheimer's disease: testing the "multiple hit" hypothesis in neurodegenerative disorders

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Research Abstract

While we know what causes rare genetic forms of Alzheimer’s disease (AD), it remains unclear how aging, and the gradual loss of function associated with it, can cause the frequent sporadic AD. Over the last years, a complete new way of regulating gene expression has been discovered: microRNAs are very small RNA molecules that are expressed in the brain and fine-tune many biological functions. We speculate that loss of such microRNA regulation can be

involved in sporadic AD development. We have already tested to a certain degree this hypothesis by measuring microRNA levels in brain of AD patients, and we have found that there are indeed significant alterations when compared to healthy controls. We now want to test whether when we make similar changes experimentally in the brain of mice, we will obtain signs of AD. In this project, we will focus of a particular family of microRNAs, that is, the miR-15 family, previously shown to modulate some aspects of AD pathology in cultured cells. We anticipate providing new mouse models for sporadic AD. Furthermore, we will explore to what extent we can use microRNA molecules to treat AD.

Further information available at:

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