

Lactic acid levels may indicate onset of brain-related aging

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Researchers may eventually monitor the progress of aging by measuring lactic acid levels in the brain, according to a mouse study.

Researchers have long suspected that aging results from gradual damage to mitochondrial [DNA](#) (mtDNA), genetic material needed to produce energy from food.

Previous studies have linked mutations in human mtDNA to age-related disorders of the [central nervous system](#) such as Alzheimer's and Parkinson's diseases.

Lars Olson and colleagues investigated this theory by examining metabolic processes in the brains of normally and prematurely aging mice.

The researchers found that mtDNA dysfunction triggers a metabolic shift in the mouse brain that could alter the expression of certain [genes](#) that control [lactic acid](#) formation. According to the authors, this shift produces an increase in brain lactic acid levels that may be detectable using non-invasive imaging techniques.

The findings also suggest that lactic acid levels rise in advance of other indices of aging and, pending further research, could be used to detect age-related diseases of the central nervous system, according to the authors.

More information: "High brain lactate is a hallmark of aging and due to a shift in LDH-A /LDH-B ratio," by Jaime Ross et al. *Proceedings of the National Academy of Sciences*

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