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# Therapeutic potential of boosting NAD<sup>+</sup> in aging and age-related diseases

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## Abstract:

Nicotinamide adenine dinucleotide (NAD<sup>+</sup>) is an essential cofactor in all living cells that is involved in fundamental biological processes. NAD<sup>+</sup> depletion has been associated with hallmarks of aging and may underlie a wide-range of age-related diseases, such as metabolic disorders, cancer and neurodegenerative diseases. Emerging evidence implicates that elevation of NAD<sup>+</sup> levels may slow or even reverse the aspects of aging and also delay the progression of age-related diseases. Here we discuss the roles of NAD<sup>+</sup>-synthesizing and -consuming enzymes in relationships to aging and major age-related diseases. Specifically, we highlight the contribution of NAD<sup>+</sup> depletion to aging and evaluate how boosting NAD<sup>+</sup> levels may emerge as a promising therapeutic strategy to counter aging-associated pathologies and/or accelerated aging.

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