

"eNAMPT - adipocyte-derived NAD+ biosynthetic enzyme that systemically ameliorates age-associated tissue dysfunctions - "

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Adipose tissue has been one of the underappreciated organs for its beneficial contribution to health and longevity. We have recently identified that adipose tissue-derived circulating NAMPT (eNAMPT) systemically regulates NAD⁺ biosynthesis in multiple tissues. Given that, with age, adipose tissue *Nampt* expressions and plasma eNAMPT levels significantly decline, we hypothesized that eNAMPT plays a critical role in maintaining these tissue functions during aging. Genetic supplementation of eNAMPT ameliorates age-associated decline in wide variety of functions including physical activity, glucose homeostasis, visual function, and sleep quality. We propose that the adipose tissue is a critical organ systemically maintaining tissue functions through the secretion of eNAMPT and that eNAMPT dysfunction underlies systemic functional deterioration during aging.