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NAD+ metabolism in health and disease.

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Erratum in

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Abstract

Nicotinamide adenine dinucleotide (NAD(+)) is both a coenzyme for hydride-transfer enzymes and a substrate for NAD(+)-consuming enzymes, which include ADP-ribose transferases, poly(ADP-ribose) polymerases, cADP-ribose synthases and sirtuins. Recent results establish protective roles for NAD(+) that might be applicable therapeutically to prevent neurodegenerative conditions and to fight *Candida glabrata* infection. In addition, the contribution that NAD(+) metabolism makes to lifespan extension in model systems indicates that therapies to boost NAD(+) might promote some of the beneficial effects of calorie restriction. Nicotinamide riboside, the recently discovered nucleoside precursor of NAD(+) in eukaryotic systems, might have advantages as a therapy to elevate NAD(+) without inhibiting sirtuins, which is associated with high-dose nicotinamide, or incurring the unpleasant side-effects of high-dose nicotinic acid.

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