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The molecular targets of resveratrol.

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Abstract

Resveratrol has emerged in recent years as a compound conferring strong protection against metabolic, cardiovascular and other age-related complications, including neurodegeneration and cancer. This has generated the notion that **resveratrol treatment acts as a calorie-restriction mimetic**, based on the many overlapping health benefits observed upon both interventions in diverse organisms, including yeast, worms, flies and rodents. Though studied for over a decade, the molecular mechanisms governing the therapeutic properties of resveratrol still remain elusive. Elucidating how resveratrol exerts its effects would provide not only new insights in its fundamental biological actions but also new avenues for the design and development of more potent drugs to efficiently manage metabolic disorders. In this review we will cover the most recent advances in the field, with special focus on the **metabolic actions of resveratrol and the potential role of SIRT1 and AMPK**. This article is part of a Special Issue entitled: Resveratrol: Challenges in translating pre-clinical findings to improved patient outcomes.

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KEYWORDS: AMPK; Metabolism; Mitochondria; Resveratrol; SIRT1

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