Nutraceuticals for Promoting Longevity

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Objective: To summarize the main findings on nutraceuticals that slow aging processes by delaying and even

preventing the development of multiple chronic diseases and improve productivity and quality of life in the elderly.

Methods: Literature search of the relevant papers known to the authors was conducted.

Results: The most robust environmental manipulation for extending lifespan is caloric restriction without malnutrition. Some nutraceuticals can mimic caloric restriction effects. This review will focus on the nutraceuticals that impact insulin-like growth factor 1 receptor signaling and sirtuin activity in mediating longevity and healthspan.

Conclusion: Aging is considered to be synonymous with the appearance of major diseases and an overall decline in physical and mental performance. Caloric restriction is well established as a strategy to extend lifespan without malnutrition. A variety of nutraceuticals were reported to mimic the effect of caloric restriction by modulating the activity of insulin-like growth factor 1 receptor signaling and sirtuin activity and consequently promote longevity and healthspan.

Keywords: Nutraceuticals, longevity, caloric restriction, insulin-like growth factor 1 receptor (IGF1R), silent mating type information regulation 2 homology 1 (SIRT1).