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Tolerance, bioavailability, and potential cognitive health implications of a distinct aqueous spearmint extract

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ABSTRACT

Background: Cognitive function can decline during the aging process and significantly reduce quality of life. Although a number of interventions have been investigated for cognitive dysfunction, including antioxidants, this prominent health concern emphasizes a need to explore methods to support cognitive health later in the life span. An aqueous extract from a proprietary spearmint line has been developed which contains a number of antioxidant compounds, including rosmarinic acid at levels that are higher than found in commercially-bred spearmint. Therefore, this pilot trial assessed the tolerance, bioavailability, and potential cognitive health implications of a proprietary spearmint extract in men and women with self-reported memory impairment.

Methods: Subjects consumed 900 mg/day spearmint extract for 30 days. The sample population (N = 11) was 73% female and 27% male with a mean age of 58.7 ± 1.6 y. Tolerability parameters were assessed at baseline and end of treatment visits. Computerized cognitive function tests were completed and blood was drawn at pre- and post-dose (0.5 to 4 h) timepoints during baseline and end of treatment visits. Subjective cognition was also assessed at end of treatment.

Results: No serious adverse events or clinically relevant findings were observed in any tolerability parameters. Plasma vanillic, caffeic, and ferulic acid sulfates, rosmarinic acid, and methyl rosmarinic acid glucuronide were detected in plasma following acute administration of the spearmint extract. Computerized cognitive function scores improved in reasoning (P =

0.023) and attention/concentration (P = 0.002) after 30 days of supplementation. After acute administration, subjects had improved attention/concentration in two tests at 2 (P = 0.042 and P = 0.025) and 4 h (P = 0.001 and P = 0.002).

Conclusions: The results from this pilot trial suggest that the spearmint extract, which contains higher rosmarinic acid content relative to extracts from typical commercial lines, was well-tolerated at 900 mg/day. In addition, the extract was bioavailable and further investigation is warranted regarding its potential for supporting cognitive health