

Cognitive Health

As the aging population continues to increase there is an unprecedented need for safe, dietary-based interventions to help support and preserve optimal cognitive function.

Research shows Resveratrol is an effective ingredient in supporting many key neurological functions.

Cognitive performance, a matter of flow and preservation

As we age, decreased blood flow to the brain and biological processes such as inflammation, normal neurobiological changes, and diet and lifestyle play a role in the cognitive performance.¹

In addition to physical and mental exercise helping to preserve cognitive function², many individuals are seeking specialized nutritional strategies to support memory, cognition, and overall mental health.^{3,4}



Resveratrol helps improve memory performance in older adults

A randomized, double-blind human study showed that a daily dose of 200 mg/day of resveratrol:⁵

• Helps improve memory performance and hippocampal functional connectivity in healthy 50-75 year olds

46 individuals, 26 wks, 200 mg daily, memory performance and hippocampal functional connectivity

Resveratrol helps improve healthy blood flow in the brain

Three separate double-blind, placebo-controlled, crossover clinical studies have investigated the role of resveratrol (250-500 mg) in modulating cerebral blood flow. The studies⁶⁻⁸ agree that resveratrol:

O Alone or in combination with piperine, is able to increase cerebral blood flow parameters (i.e. concentrations of total hemoglobin and deoxyhemoglobin)

22 healthy adults, 45 minutes after intake, 250 or 500 mg, cerebral blood flow after cognitive tasks

23 healthy adults, 28 days, 250 mg resveratrol \pm 20 mg piperine, cerebral blood flow

60 young adults, 28 days, 500 mg, cerebral blood flow after cognitive tasks

Resveratrol supports cognitive performance in postmenopausal women

In a randomized, double-blind, placebo-controlled clinical study⁹ indicates that resveratrol:

- Elicited a 17% increase in cerebrovascular responsiveness (CVR)
- o Increased cognitive performance (e.g. memory)
- Tended to reduce anxiety and other parameters in the Profile of Mood States (POMS)

80 post-menopausal women, 14 weeks, 75 mg twice daily, neuropsychological test battery & others

Resveratrol positively effects cognitive function biomarkers

In a randomized, double-blind, placebo-controlled clinical study 10,11 the authors showed that resveratrol:

- O And its metabolites were well tolerated and crossed the blood-brain barrier
- Reduced the decline in memory and task performance
 Slowed the decline in the levels of AB40 and AB42
- o Regulated the levels of neuro-inflammation while inducing adaptive immunity markers

119 individuals with mild to moderate cognitive decline, 52 weeks, 500 to 2000 mg daily, memory performance, MRI and clinical outcomes

On-going research

Evolva co-funds the largest and longest resveratrol study ever conducted in post-menopausal women. A double blind, placebo-controlled and cross-over study which investigates brain and bone health, pain perception and cognitive task performance.¹² The 12 month interim data presents that Veri-te™ resveratrol:

- o Improved cerebrovascular function and cognitive performance
- O Reduced risk of bone fracture
- Reduced perception of pain and improved overall wellbeing

125 post-menopausal women, 24 months, 75 mg Veri-teTM Resveratrol daily, neuropsychological test battery and others



References

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Resveratrol re-imagined

Veri-te[™] Resveratrol is sustainably produced using an innovative yeast fermentation process.

This means our Resveratrol is:

PURE: >98% pure trans-Resveratrol.

SAFE: free of contaminants (e.g. pesticides, emodin & PAHs).

RELIABLE: consistent batch to batch.

VERSATILE: off-white, odorless and neutral taste. SCALABLE: large cGMP production capacity.

Our Products:

Veri-te[™] 98%

- Perfect for dietary supplements, food & beverages (Food Grade) and cosmetics.
- Allows the highest loading of resveratrol for your products.

Veri-Sperse™ CWD

- Water dispersible Veri-te[™] Resveratrol, made with LipiSperse[®] technology from Pharmako Biotechnologies.
- Appropriate for instant powder beverages, liquid shots, oral dispersible, and effervescent tablets.
- With a neutral taste, the system is easy to flavor in a variety of formulations.

Veri-te™ API

 API grade Resveratrol manufactured under Pharma GMP. DMF available, compliant with regulatory requirements for pharmaceutical products.

Veri-te™ Aqua

- Completely water and fat soluble, made with NovaSOL® technology from Aquanova.
- Suitable for crystal clear liquid applications such as soft-gel capsules, liquid shots or functional beverages, liquid cosmetics and gel sachets.

Regulatory & Quality Status:

- EU Novel Foods approved, US self-affirmed GRAS, and other country approvals.*
- Made under cGMP and HACCP based food safety conditions.
- Halal and Kosher certified resveratrol available.
- *Contact Evolva for a full list of countries where approved by regulation.

About us

Evolva is a Swiss biotech company focused on the research, development and commercialization of products based on nature. We have leading businesses in Flavours and Fragrances, Health Ingredients and Health Protection. Evolva's employees, half of which are women, are dedicated to make the best products that can contribute to health, wellbeing and sensory enjoyment. Find out more at www.evolva.com.

For more information:

We have sales offices in the US and Europe, with distribution and regulatory approvals worldwide.* Our technical team can advise on formulations and ideal combinations. Additionally, our marketing team can help you plan your marketing strategy for Veri-te™ Resveratrol. Contact us to order free samples for evaluation.

Evolva's website: www.evolva.com

Veri-te[™] Resveratrol website: <u>www.veriteresveratrol.com</u>

For general inquiries and customer service inquiries please email: res@veriteresveratrol.com

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Or phone us at:

Evolva (U.S.A./R.O.W.): +1.800.250.1032 Evolva (Europe/R.O.W.): +41.61.485.2099

