

SIBELIUS™

:SAGE

The Natural Way to Remember!

What is Sibelius™:Sage?

It is a branded, scientifically evidenced and clinically validated dried sage extract (*Salvia officinalis* L.), specially designed to **enhance memory and alertness and maintain cognitive health***. It derives from a proprietary, non-GMO cultivar of sage grown in the UK and is standardised to 2.5% rosmarinic acid. The sustainable source and well-controlled manufacturing process of Sibelius™:Sage ensures a safe and high-quality product.

KEY BENEFITS

1. Clinically validated cognitive benefits¹
2. Patent Pending²
3. GRAS³
4. TFDA registered
5. Non-GMO
6. Standardised to 2.5% rosmarinic acid
7. Suitable for multiple delivery formats

Why Sage?

Sage (*Salvia officinalis* L.) is a non-toxic European herb that has a long tradition for cognitive improvement dating back to the Middle Ages⁴. Clinical studies have demonstrated sage's

cognitive enhancing effects on primary, secondary and working memory in both healthy young and elderly volunteers^{1,5}. Sage extracts have been shown to inhibit acetylcholinesterase, an enzyme that breaks down esters of the neurotransmitter acetylcholine, which plays an important role in the formation of memories⁶. They also possess strong antioxidant and anti-inflammatory properties. In addition, chronic administration has been shown to reduce cognitive decline in patients with Alzheimer's disease (AD)⁷.

Clinical Studies

Improved Memory and Attention in Older Volunteers

The cognitive-enhancing properties of Sibelius™:Sage have been confirmed in Sibelius Natural Products' clinical study on 20 healthy elderly volunteers (65–90 years old). The administration of 167 mg and 333 mg of Sibelius™:Sage to healthy seniors, has shown to significantly improve their cognitive performance within 1 hour of treatment, including improvement of secondary memory – recognition and recall–, accuracy and speed of attention¹ (Fig. 1).

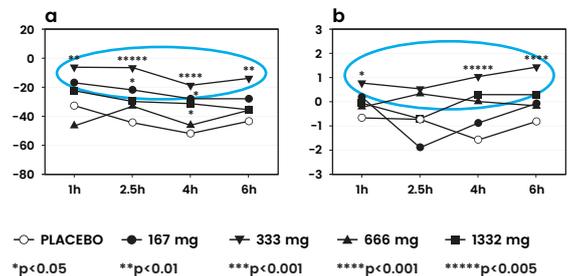


Figure 1. Effects of a standardized extract of *S. officinalis*, Sibelius™:Sage, (167, 333, 666, 1332 mg) and placebo on cognitive factors derived from CDR computerized assessment battery. Mean change from baseline scores are shown for a) secondary memory and b) accuracy of attention.

S. officinalis better cognitive performance than *S. lavandulifolia*

In 2010, a clinical study of *Salvia officinalis* and *Salvia lavandulifolia* essential oils investigated the effect on cognition and mood in 135 healthy adults. The *S. officinalis* group performed significantly better than the *S. lavandulifolia* and control groups on the quality of memory and secondary memory⁸.



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SIBELIUS
NATURAL PRODUCTS

Improved Cognitive Performance in Young Adults

In a double blind, placebo controlled cross over study, 30 healthy participants (20 -29 years old) were given a *Salvia officinalis* extract or placebo and tested for stress, mathematical processing, word processing, response time, memory and mood. Improved mood and cognitive performance were noted after a single dose administration of 300 mg sage extract ⁵.

Other Studies

Sibelius™:Sage, a Unique Ingredient

The challenge has been to identify the unique characteristics of Sibelius™:Sage over other sage extracts, obtained from different sources and extraction procedures. Using Chronoscreen™, Sibelius Natural Products' patented technology, we have been able to demonstrate that there is a significant difference in the biological activity of Sibelius™:Sage, over other sage extracts (Fig. 2).

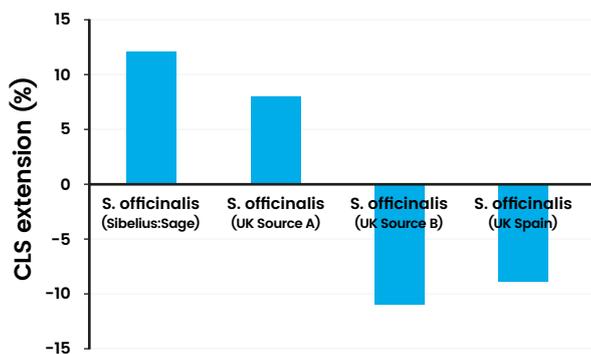
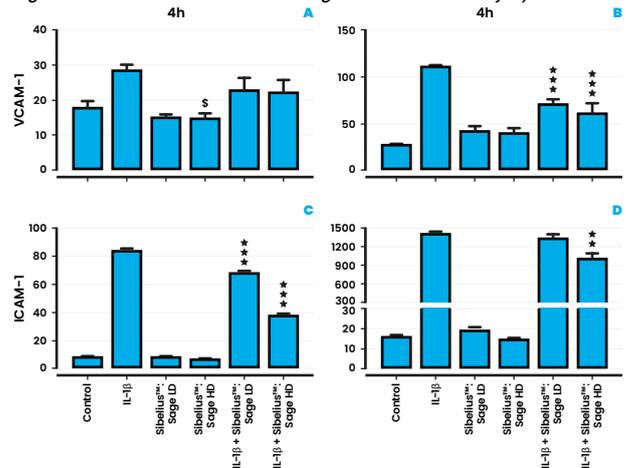


Figure 2. Chronological Life Extension (CLS Extension) is measured using Sibelius' patented Chronoscreen™ technology, and allows for the identification of biologically active natural products in the model organism *C. elegans*. Sibelius®:Sage shows increases in lifespan of around 10-15%.

Anti-inflammatory Effects of Sibelius™:Sage

Circulating inflammatory markers, including the vascular injury markers Intercellular Adhesion Molecule-1 (ICAM-1) and Vascular Cell Adhesion Molecule-1 (VCAM-1), have been noted in patients with cognitive disease such as AD⁹⁻¹². Sibelius™:Sage caused a significant reduction in the basal level of release of VCAM-1, as well as IL-1β induced conditions in human cells (Fig. 3 A & B). Sibelius™:Sage also caused a significant reduction in ICAM-1 in IL-1β induced *in vitro* (Fig. 3 C & D), as well as other inflammatory markers (data not shown).

Figure 3. Effects of Sibelius™:Sage on vascular injury markers.



VCAM-1 (A & B) and ICAM-1 markers (C & D) were tested in human adipocyte cells after 4h (A & C) or 24h (B & D) exposure to either a low dose (LD; 5µg/ml) or high dose (HD; 50µg/ml) of Sibelius™:Sage in the presence or absence of stimulation with IL-1β (0.5ng/ml).

Awards & Certifications



Citations

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* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

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