Salvia officinalis (Sage)

Source
Sage (Salvia Officinalis) originally came from the area around the Mediterranean. It belongs to the mint family – Labiatae. The leaves of this common kitchen herb are used in medicine as well as in cooking. The active constituents of sage include flavonoids: apigenin and luteolin-7-glucosides, genkwanin, genkwanin-6-methyl ether, which improve resistance to infection.

Caffeic acid derivatives (3-6%): chlorogenic acid, rosmarinic acid.

Diterpenes: carnosolic acid (0.2-0.4%), picrosalvin, rosmanol, salacinolide; numerous methoxylated glycosides: triterpenes: ursolic acid (5%).

Volatile oils (1.5-3.5%): alpha-beta-caryophyllene (humulene), alpha-and beta-pinene, bornyl, camphene, camphor (14-37%), dalmatia, isobutyryl acetone, linalool, thujone (20-60%) alpha-thujone and beta-thujone), 1,8-cineole (6-16%), viridifloro. These give sage its pungent and bitter taste and its cooling and drying energy.

Sage also has a fair amount of antioxidants. Various studies have shown that sage is the most potent natural antioxidant of the common species. Antioxidants can kill a variety of bacteria, and help mop up free radicals, which could be the main cause for cellular damage.

In addition, sage contains oestrogenic substances, iron, magnesium, niacin, phosphorus, potassium, protein (12%), sodium, steroids, vitamin C, zinc, aluminum, calcium, carbohydrates (66%), fats (14%), fibre (9%), and has cholineric activities.

Potential Uses
Main uses: (Well documented)
Antioxidant, Menopausal hot flashes, Alzheimer’s disease.

Other possible uses: (Less well documented)
Antiseptic, Carminative, Aromatic, Astringent, Bad breath, Canker sores, Tonsillitis, Gingivitis, Wrinkles, Asthma, Yeast infections, Baldness, Diabetes, Diarrhoea, Nausea, Nasal drip, Ulcers and to dry up milk in lactating woman.

Mode of action in Alzheimer’s disease
In Alzheimer’s disease, there is degeneration of cholinergic neurons in Meynert’s and other brain stem nuclei. As sage has a cholineric activities, British researchers have confirmed that sage inhibits the enzyme that break down acetylcholine (a brain chemical neurotransmitter that plays a key role in cognition and reasoning), thus preserving the compound that seems to help prevent and treat Alzheimer’s disease.
Supporting Evidence

In a recent study to evaluate the antioxidant activities of the sage polyphenols, consisting of flavone glycosides and a range of rosmarinic acid derivatives and their capacity to scavenge DPPH and superoxide anion radicals and also to reduce Mo (VI) to Mo (V). All derivatives of rosmarinic acid showed potent antioxidant activity in three test systems and showed capacity to reduce Mo (VI) to Mo (V) and showed superoxide radical scavenging activities, with values ranging from 220 - 300 SOD units/mg. In particular, were 4 - 6 and 15 - 20 times greater than trolox, respectively. The high SOD (superoxide dismutase) activity of rosmarinic acids could be attributed to the radical-scavenging catechols and the xanthine oxidase-inhibiting caffeic acid moieties contained in them. The antioxidant activity concerning flavonoids was variable, those with a catechol B-ring (luteolin glycosides) were more active than those without (apigenin glycosides)4.

Extracts of the leaves of Salvia officinalis and Medicago sativa were used to treat hot flashes in 30 menopausal women. The symptoms completely disappeared in 20 women, four women showed good improvement and the other six showed a reduction in symptoms6.

Precautions

Side effects:

Sage has a fairly high concentration of thujone, a compound that is toxic and may harm the liver in high doses, as well as causing convulsions. It should therefore not be taken internally on a continuous basis for more than a week or two7. Epileptics should also avoid it as it may trigger seizures7. Sage is a uterine stimulant, so it should be avoided in therapeutic doses during pregnancy. Overdoses may cause dry mouth. These concerns do not extend to the use of sage as a gargle or mouth rinse. Sage should be avoided when fever is present.

Drug interactions:

Use of this herb may interfere with and/or reduce the effectiveness of oral contraceptives and sex hormones. It may increase the risk of seizure when combined with antiepileptic drugs or potentiate antidepressant (hypoalgesic) drugs. It interferes with the absorption of iron and other minerals when taken internally.

Pregnancy and Lactation:

Pregnant women should not use the pure essential oil, or alcoholic extracts of sage internally8. Women who are breast-feeding should only use sage in medicinal amounts if they want to dry up the flow of milk.

The Safe Dosage:

Dried Herb: 1-4 g or by infusion (3x/day)
Liquid Extract: 1:1 in 45 % alcohol, dose 1-4 ml (3x/day)
External: undiluted alcohol extract
Essential Oil: 0.1-0.3 g/day
Tincture: 2.5-7.5 g/day
Commission E: Herbs 4-6 g/day

For treatment of inflammation in the mouth, gingivitis or sore throats: 3 grams of the chopped leaf can be added to 150 ml of boiling water and strained after 10 minutes9. This is then used as a mouthwash or gargle several times daily. Alternatively, one may use 4 ml of fluid extract (1:1) diluted in one glass of water, several times daily.

For internal use: The same tea preparation described above may be taken three times per day. Alternatively, 2-4 ml of tincture (1:10) may be taken three times per day.

Note: Sage oil should never be consumed without being first diluted in water.

References and Further Readings:


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Rus Finney
Publisher