

Ocimum sanctum

Holy Basil, Tulsi

Indications

To improve general health and vitality as an adaptogen, adrenal fatigue, stress, anxiety, depression, diabetes, poor circulation, infections, colds, flu, and fever.

Mechanism of Action

The mechanisms of action of *Ocimum sanctum* have not yet been thoroughly investigated. Chemical constituent assays have identified the ocimumosides and cerebroside active in the antistress effects. Some of its immunomodulatory effects involve γ -aminobutyric acid pathways.¹

Evidence-Based Research

Ocimum sanctum protects organs and tissues against chemical, physical, and metabolic stresses and helps optimize blood glucose, blood pressure, and lipid levels. It protects against psychological stress through positive effects on memory and cognitive function and through its anxiolytic and antidepressant properties.² Several of its most studied constituent groups, the ocimumosides and the cerebroside, display antistress effects by normalizing hyperglycemia, plasma corticosterone, plasma creatine kinase, and adrenal hypertrophy.³

Ocimum sanctum has been shown to reduce lab indices of stress in common animal models of stress including imposed restraint,^{4,5,6,7} forced swimming,⁸ thermal stress,⁹ and exposure to excessive noise.^{10,11,12} A rat study showed pretreatment with ocimumosides A and B at a dose of 40 mg/kg significantly increased dopamine and serotonin and their metabolites and decreased noradrenaline in various brain regions compared with control animals subjected to restraint. The activities of superoxide dismutase and glutathione peroxidase in the frontal cortex and striatum were also significantly increased with the use of *Ocimum sanctum* extracts.^{4,13} Another rat study demonstrated that pretreatment with *O. sanctum* prevented the spike in corticosterone levels seen in the control animals exposed to noise stress.¹⁴

Ocimum sanctum can lower elevated cortisol and may potentially regulate corticosteroid-induced diabetes mellitus.¹⁵ The seed oil has been shown to modulate both humoral and cell-mediated immune response.¹

Safety in Pregnancy and Breastfeeding

There are no published papers on *O. sanctum* in pregnancy or lactation.

General Safety

High doses of *O. sanctum*, 2 g of the leaves taken for 30 days, had adverse effects on male hormones and sperm count in male rabbits.¹⁶ *Ocimum tenuiflorum* (kaphrao) is a culinary herb used in Thai cooking and is used with meat, seafood, and rice.¹⁷

Dosage

Traditionally, up to several grams of dried *O. sanctum* leaves have been used orally for therapeutic and preventative purposes, or a similar amount prepared into an infusion.

Modern capsules may provide 100–500 mg of *O. sanctum* taken two to three times daily for adrenal, immune, and energy support as well as for neuroprotection.

Traditional Uses

“Tulsi” basil, a relative of culinary basil, has been used in India for spiritual and practical purposes from religious rites and creating sacred space to preparing the mind and body for meditative and spiritual practices; hence, the name “holy.” In addition to culinary applications, *O. sanctum* has been a long-standing plant used for bathing, water purification, food sanitation, and disinfectant washes. The plant has been used for diabetes; digestive pain and spasms; and kidney pain and conditions. It also has been used as a circulatory stimulant; a treatment for infections, colds, flu, and fever; a topical treatment for snake and insect bites; and as a component of wound and eye washes.^{18,19}

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