

SALVICURE

# Treating Lyme Disease with Sage





# Treatment of Lyme Disease with *Salvia* spp.

Lyme disease is an extremely common infectious disease with almost worldwide distribution. This disease has been known since 1975, when in the two American towns of Lyme and Old Lyme, children suffering from joint inflammation were all found to have been bitten by ticks one or more times.

Until then, these symptoms were misinterpreted as rheumatoid arthritis. **The pathogen was first identified in 1981 by the US-American bacteriologist Willy Burgdorfer** and described in his honor as *Borrelia burgdorferi*. By now it is known that Lyme disease can be caused by other *Borrelia* bacteria and few other bacterial species.

**In addition, it is now known that more than 1 billion people worldwide are ill or have fallen ill with Lyme disease**<sup>1</sup>. It is assumed that half of all patients with rheumatic diseases are ill with Lyme disease. Currently there is no effective therapy on the market. The treatment of choice for Lyme disease is the administration of antibiotics with all their known side effects and interactions, including the development of tumor diseases.<sup>2</sup>

In addition, work is being done on vaccines against Lyme disease. Here, even the PEI (the Paul-Ehrlich-Institut in Germany) has regular safety concerns about the active ingredient under discussion. Currently, a clinical phase II trial for a potential vaccine candidate has been withdrawn.<sup>3</sup>

In an article by Frank C Gherardini et al., published in the National Library of Medicine (NIH), the authors show that *Borrelia burgdorferi* is highly resistant to the body's immune defenses.<sup>4</sup>

Due to the fact that *Borrelia* are extremely adaptable, it is necessary **to move away from conventional therapies** (antibiotics, vaccines, chemotherapy) and **find new treatment options**.



## Our Approach

In our research with herbal active substances regarding their usability as new less toxic antibiotics against which resistance is not or hardly developable, we found among others in some sage species active substances which can selectively kill *Borrelia* and *Yersinia*.

In microbiological test series we could prove that specifically the bacteria not belonging to the human biome are killed. The active ingredients are soluble in water and alcohol, with alcoholic extracts containing more active ingredient. Efficacy against *Borrelia* bacteria is achieved by oral administration. However, we can also imagine an injection in acute diseases.



# The Types of Sage used

Of the sage species we have studied, it is mainly the following species, primarily found in Turkey, whose efficacy can be proven through our studies. In detail, these are Salvia absconditiflora and Salvia pisidica.



## Salvia absconditiflora

- **Origin:** This species of sage is native to the arid regions of northern Mexico and the southwestern United States.
- **Description:** Salvia absconditiflora is a low-growing perennial with gray-green, fragrant leaves.



## Salvia pisidica

- **Origin:** This species of sage is native to the mountainous regions of Turkey, especially Pisidia.
- **Description:** Salvia pisidica is a perennial plant with narrow, gray-green leaves and delicate, blue-purple flowers.



## Salvia caespitosa

- **Origin:** Salvia caespitosa is native to central and southern Anatolia and prefers dry, rocky habitats.
- **Description:** Tufted sage is a compact, bushy plant with silvery-green leaves and showy, blue flower spikes in spring and early summer.



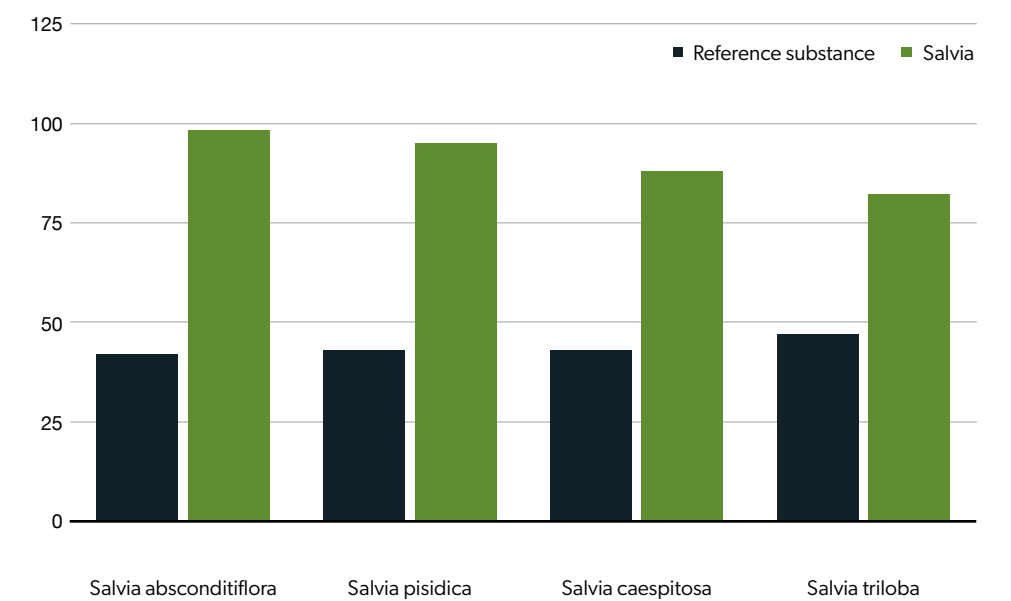
## Salvia triloba

- **Origin:** In the eastern Mediterranean regions, including Turkey and Greece.
- **Description:** A compact, bushy plant with silvery-green leaves and showy, blue flower spikes in spring and early summer.



## Effectiveness of our Sage Extracts in Relation to Common Antibiotics (Penicillin / Ampicillin):

The following bar chart clearly shows the **better efficacy of our sage extracts** in contrast to antibiotic therapy.



Research into the ingredients of sage species with regard to their composition and effect has been advanced in recent years, especially by some Turkish but also Iranian research groups. These results available to us also indirectly confirm our findings.<sup>5</sup>





## DOSAGE FORMS OF OUR SAGE AND SAGE EXTRACTS



The pure aqueous or alcoholic extract can be taken directly **drop by drop.**



The pure aqueous or alcoholic extract can also be taken **dissolved in honey.**



The extract can also be given **as an injection or self-injected.** (Especially for acute courses of the disease).

## ADVANTAGES OF OUR THERAPY



No known side effects



No currently known drug interactions



Strengthening of the immune system when taking the extract dissolved in honey



Biological



No preservatives, chemical carriers or solvents needed



Application at home and thereby promotion of the patient's own responsibility



Direct application after a tick bite can prevent the spread of germs throughout the body

## NEXT STEPS

1

The extracts and the honey solutions should be standardized as uniformly as possible via **laboratory experiments and test series.**

2

**Propagation of sages** in required quantity.

3

Possible **approval as food** for special medical purposes.

4

**Patenting** of other sage species.

5

**Identification of the active ingredient(s)** and testing whether they alone (as a drug) can kill the Lyme disease pathogens.

We have submitted our therapy for patenting in a **first patent specification to the European Patent Office on Dec. 24, 2022.** <sup>6</sup>



## DISCLAIMER

This is not a sales prospectus in the sense of the law, but serves exclusively for individual information. Important risk notice: Please note that all information has been collected carefully and to the best of our knowledge, but no guarantee can be given. This document does not contain an offer to purchase or a solicitation of an offer to purchase the product presented and may not be used for the purpose of an offer or solicitation of an offer to purchase. Forward-looking statements are based on assumptions. Since all assumptions, forecasts and statements reflect only the author's current views with respect to future events, they involve risks and uncertainties. Accordingly, they should not be relied upon as a promise or guarantee of future performance. Investors should be aware that actual performance may differ materially from the forecasts. In this respect, the future performance of the investment alternatives is expressly not guaranteed. In addition to the plant know-how, which we are developing and testing with the phytomedical and pharmaceutical experts of Canify (formerly Bavaria Weed), ABiTec has profound know-how in the field of venoms (animal toxins) since the beginning of 2000. The expertise of Prof. Dr. Martin Berger of the German Cancer Research Center (DKFZ), which has never been seen before in oncology, promises undreamt-of perspectives in the treatment of, for example, cancer, multiple sclerosis, etc. today.

## SOURCES

- <sup>1</sup> aerzteblatt.de. of 14.06.2022: „Weltweit infiziert, Mitteleuropa besonders betroffen“
- <sup>2</sup> Carina Rehberg of 02.02.2023: Antibiotika erhöhen Darmkrebsrisiko; Zentrum-der-Gesundheit.de
- <sup>3</sup> apotheke-adhoc.de of 17.02.2023: „Borreliose-Impfstoff: Panne bei Phase-III-Studie“
- <sup>4</sup> Julie A Boylan, Kevin A Lawrence, Jennifer S Downey and Frank C Gherardini: „Borrelia burgdorferi membranes are the primary targets of reactive oxygen species“. Mol Microbiol, 2008 May 1; 68(3): 786-799
- <sup>5</sup> Gürkan Semiz, Dogukan Mutlu, Batikan Günal, Asli Semiz, Sevki Arslan: "The anticancer effect of Salvia pisdica essential oil through promotion intrinsic and extrinsic apoptosis pathways in human cancer cell lines. Journal of Herbal Medicine, Volume 39, June 2023 // Samira Eghbaliferiz, Vahid Soheili, Zahra Tayrani-Najaran and Javad Asili: Antimicrobial and cytotoxic activity of extracts from Salvia tebesana Bunge and Salvia sclareopsis Bornm cultivated in Iran; Physiol Mol Biol Plants, 2019 Jul; 25(4): 1083-1089)
- <sup>6</sup> Kit of parts zur Therapie der durch Borrelia spp. ausgelösten Borreliose, EP 22216673.8

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