

# Chapter 13

## Medicinal Uses of Secondary Metabolites in the Genus *Salvia*

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### ABSTRACT

*The *Salvia* genus, commonly referred to as “sage”, represents the largest genus within the family Lamiaceae. Approximately 1,000 species of the *Salvia* genus are known to grow naturally, primarily in southern Europe but also in other regions worldwide. A significant proportion of the species are utilized in traditional medi-*

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*vine. In vitro and in vivo studies with Salvia species have confirmed the presence of numerous secondary metabolites with various biological activities and therapeutic properties. The Salvia genus contains a variety of secondary metabolites, including sterols, flavonoids, sesquiterpenoids, sesterpenoids, diterpenoids, triterpenoids, and essential oils. This study aims to present a comprehensive analysis of the use of the genus Salvia in traditional medicine and the therapeutic effects of its secondary metabolites.*

## **1. INTRODUCTION**

The findings regarding the medicinal applications of plants substantiate their utilization since ancient times. The employment of plant-derived medicines constitutes a vital component of the cultural practices within rural societies, even in developed nations. In eras when the advancement of medical practices lagged behind contemporary standards, communities relied on plants in their natural forms for therapeutic purposes. The applications of plants span diverse domains, including but not limited to spices, teas, ornamental uses, medicinal preparations, dyes, the flavoring industry, culinary practices, and the cosmetics sector. Furthermore, technological advancements over time have broadened these applications, enhancing the roles that plants play in various industries, (Berber et al., 2013) (Baytop, 1999).

Phytochemicals, often referred to as plant chemicals, are biologically active compounds synthesized by plants, (Liu, 2004).

Among the various plant families, the Lamiaceae family exhibits the highest diversity in terms of phytochemical composition. The most significant biologically active compounds within this family are secondary metabolites, which have garnered increasing scholarly attention due to their diverse applications and effects, (IARC, 1980).

Notably, phenolic compounds stand out as the most crucial group of secondary metabolites, particularly due to their decongestant properties. Phenolic substances are recognized as paramount natural antioxidants and are classified as polyphenolic compounds, which are ubiquitous across all plant parts. Among these polyphenolic compounds, flavonoids, coumarins, cinnamic acid derivatives, tocopherols, and phenolic acids are particularly prevalent in decongestant formulations. The extensive array of secondary metabolites present in the Lamiaceae family underscores the importance of continued research into their potential health benefits and therapeutic applications, (IARC, 1980).

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